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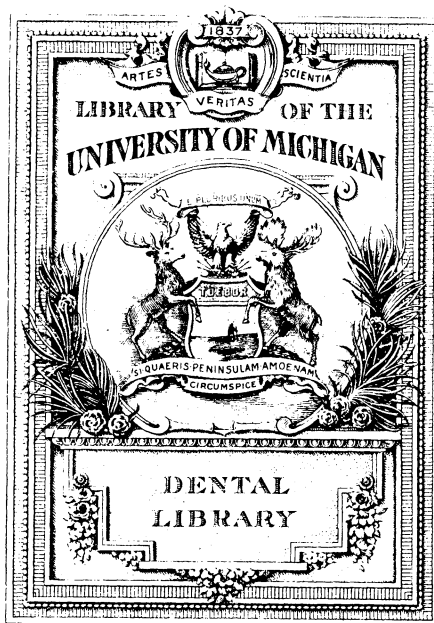
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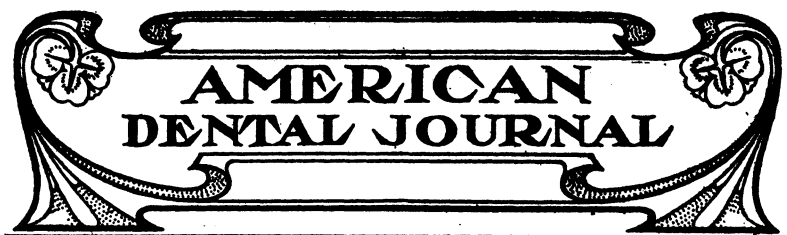
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LISTERINE TOOTH POWDER

A fourth of a century of continued, satisfactory employment of Listerine has demonstrated to many who have used it during this entire period, that Listerine is the best antiseptic for daily employment in the care and preservation of the teeth. Listerine Tooth Powder, then, is not intended to supplant Listerine in the daily toilet of the teeth, but is offered in response to a popular demand for a frictionary dentifrice to be used in conjunction with this well-known and time-tried antiseptic.

Listerine Tooth Powder is composed of precipitated carbonate of calcium, carbonate of magnesium, oil of cananga, and the antiseptic constituents of Listerine.

The simplicity of its formula, in itself commends the powder. The English precipitated chalk and magnesia are the finest obtainable, and absolutely free from grit; the oil of cananga possesses properties opposed to inflammatory conditions of the gums, and together with the antiseptic constituents of Listerine, adds to the desirable qualities of the product. However, it is to the list of articles which have been omitted from the formula that special attention is directed, and the manufacturers believe the profession will agree that the absence of pumice stone, cuttlefish bone or other abrasive substances, and of sugar, orris root or superficial perfume of any character (the usual ingredients of tooth powders and liable in themselves to fermentative action in the mouth), is a distinct advantage.

Lambert Pharmacal Co.

St. Louis, U. S. A.

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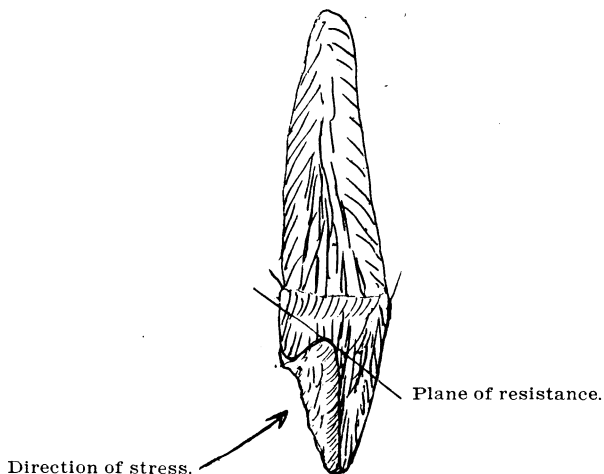
PROGRESSIVE COURSE OF PRACTICAL INSTRUCTION

PORCELAIN.

BY T. ELHANAN POWELL, D.D.S.

The one all important detail in porcelain as well as in other fillings is the proper preparation of cavities.

The preparation of cavities for inlays, while somewhat different from those intended for amalgam or gold, there are certain general principles which have to be observed in all.



Extension of cavity beyond contact point, thorough separation to admit of free access, definite and symmetrical margins, square and secure seating for anchorage; all these have to be taken into consideration.

Chisels may be used to break down frail walls and to straighten enamel margins.

Small carborundum stones may be used to obtain proper depth and general outline. These are manufactured in numerous shapes, from which one may choose a working outfit.

Among the most useful being the round, inverted, concaved elongated prism and rounded keystone.

Different sizes should be chosen to suit the varied cavities and the grit should range from coarse to fine, having on hand for polishing and finishing a half dozen Arkansas stones.

No undercut should be left in the cavity; if any exist they should be cut out or else filled in with cement before the cavity is finally smoothed with the Arkansas stone.

The following six principles should be observed in the preparation of all cavities.

First. Obtain free access.

Second. The walls of the cavity should diverge from base to orifice, enabling the withdrawal of matrix with ease.

Third. The margin should not be beveled, but should be clear and well defined.

Fourth. There should be no undercuts.

Fifth. The general outline of the cavity should be gracefully rounded.

Sixth. Cavity should emphasize mechanical anchorage—i. e., so shape the cavity that attrition instead of tending to loosen the inlay will drive it toward the base.

In principle 1 reason is evident, for sufficient access must be obtained before the matrix can be successfully burnished or drawn; separation which would suffice ordinarily for gold or amalgam will *not* permit the drawing of the matrix or the setting of the burnished or finished inlay.

In principle 2 diverging walls not only facilitate the withdrawal of the matrix, but results in the baking of a wedged shaped inlay, which form adds to its retention.

Principle 3. The bevel which is so much to be desired in a gold filling would result disastrously in the making of an inlay on account of the friability of a feather edge; thus destroying the continuity of the inlay margin with the enamel surface and it would also invite decay at this point.

Principle 4. Undercuts. Even if a matrix should have sufficient spring to permit drawing from slight undercuts it would be impossible to set the baked inlay; so they must be cut out or filled in with cement.

PROGRESSIVE COURSE OF PRACTICAL INSTRUCTION.

Principle 5. Sharp Angles. An inlay always looks better if angles are avoided and the inlay constructed with *straight* lines and rounded corners. Usually the color scheme is much improved by well devised curves.

Principle 6.—Cement, alone, will not retain an inlay; consequently, some additional anchorage must be obtained. Positive planes of resistance, such as the dove-tail or the equivalent to the mason's "lap" should be resorted to.

It has been argued that two perfectly smooth surfaces cemented together would resist a considerable force in mastication on the same principle that two panes of glass brought in contact are thus held together by capillary attraction.

Well, some theories are fine from an argumentative standpoint, but when put to the test by the average operator they fail to work out satisfactorily; this has been the experience of some "mighty" good porcelain workers, to their sorrow. Such men do not now put much dependence in capillary attraction or in cement, *but shape their cavities in such manner that the planes of resistance are at right angles to the stress of the force of mastication where this force comes in contact with the filling*, so that in studying general principles of inlay filling it is well to observe the accompanying diagram where the filling is to be exposed to any stress.

OPERATIVE DENTISTRY.

BY R. B. TULLER, D. D. S.CLINICAL PROFESSOR OF OPERATIVE DENTISTRY, CHICAGO COLLEGE OF
DENTAL SURGERY.

PROPERTIES OF GOLD.

There is no other known metal so perfectly adapted to filing teeth, all things considered, as pure gold; or as pure as gold can be made. Pure tin approaches it to some extent and would be almost ideal for many kinds of cavities if it did not oxidize, and hence change from a beautiful white to, in many instances, almost black. The softness of tin, with a moderate degree of cohesion (under considerable pressure), together with accredited preservative or aseptic qualities, are features that have made tin desirable in years past; and to some extent still, by some operators, as filling material. The softness of the material makes it easily adaptable to the walls of a cavity, but its wearing qualities under mastication are not satisfactory; and its property of cohesion, if it may be really termed cohesive (considerable force being required), is not sufficient to permit of contour work, even if its color would remain bright.

Its conductivity, being low compared with gold, is favorable. Tin has a place among filling materials, but its softness and adaptability may now be found in gold, where some years ago there was some lack of these qualities on account of impurities.

With improvements in refining gold to a degree *almost* pure in these later days, and with reasonable economy in the process, dental gold may be had, both cohesive and non-cohesive as soft and readily as workable, in intelligent hands, as has been accredited heretofore to tin foil and fibre tin; and hence relegates the latter to much more limited use.

The color of gold, though the most beautiful and rich of all the known metals, does not harmonize, esthetically considered, with the pearly appearance of the teeth. Another quality of gold, not desirable in a filling material, is its very high conductivity. This feature, however, may, by various ways known to dental operators, be offset by using nonconductive substance under it, tin being frequently used as an intermediary. The color, however, cannot be very material-

ly modified. Platinum is sometimes introduced with gold to subdue the yellow, as well as to produce hard fillings that will stand up under unusually hard wear. All in all, pure gold, if a *metal* is to be used, stands pre-eminently superior to all others, for the dentist's use.

There is, as is well known, a strong and growing tendency among artistic or cosmetic dentists and cultured patients, to suppress the exposure of glittering, glaring gold in front teeth and even bicuspid and first molars in many cases; but that is not the subject under discussion at this time.

Every operator using gold should be familiar with all the peculiar qualities of this unique and wonderful metal; and especially so that he may make the proper selection for the different classes of cases that come to his hands.

Purity and softness—hence adaptability—are quite synonymous terms as concerns dental gold. Any admixture, however minute, of any other metal or impurity takes away so much from this good quality.

Gold is rarely, and we may say, never found without admixtures of several other metals. Often the baser metals predominate as with silver and lead, and it is exceedingly difficult even in the most improved refining processes of today, to remove every trace of other metals, so that we have it absolutely 1000 fine. That degree of fineness is sought more for dental purposes than for any other thing that gold is used for so extensively. The elimination of the last trace of impurities, or even the last one thousandth, is naturally, the hardest and most expensive part of the refining process; but some producers of dentist's gold in late years get pretty close to the mark, and we are the gainers. It is very soft, very malleable and unless treated purposely to render it non-cohesive, is the reverse. If gold is lacking in these qualities, and is harsh and hard to fold over and manipulate with pluggers, it indicates that it lacks what is desired in refinement.

In selecting cohesive foils or pellets, then, the softer they are, the easier they will be to manipulate and adapt to cavity walls and thus make fillings less liable to leak.

When the properties and advantages of cohesive gold were first made known to the dental profession, it is quite likely no purer than 998 or 999 was used or such a degree as is reached at the U. S. mint,

the source from which refined gold is secured, and hence that prepared as cohesive gold was harsh and quite stiff and growing more so with each touch of an instrument, and in consequence difficult to work. Owing to the exact knowledge and especial skill required to work and adapt surely to cavity walls, this stiff cohesive gold is accountable for many poor fillings.

From the same "batch" of gold prepared as non-cohesive (designated then as "soft"), the softness was due to the lack of cohesion—the sliding of particles by each other instead of clinging to each other at every point of contact, and not to any difference in the purity of the gold. That is to say, noncohesive gold can be produced which is soft in the nature of it, and cohesive gold can be produced that is soft in working qualities—in folding on itself until the pressure for condensing is put upon it, becoming rigid at the desired moment and not materially so before.

Some years ago when cohesive gold came to the notice of the profession it was almost universally termed hard gold, in contra-distinction to non-cohesive which then was naturally termed soft. Hard and soft were the terms used to designate the two kinds. Since we now get very soft gold that is exceedingly cohesive, the old terms confuse, and cohesive and non-cohesive are the only terms proper, and soft may apply to either.

There is a simple process by which the dentist can make most gold foils either cohesive or non-cohesive at will (except a few foils that may be made permanently non-cohesive). Usually gold is non-cohesive because the surface of the foil is coated with a foreign substance which prevents, and due to gaseous vapor films, of course, imperceptible to the eye. It was found that ammonia vapors may be employed for this purpose, exposing the gold in a closed drawer with a bottle of ammonia overnight, the cork of the bottle to be slightly withdrawn or loosened to permit of escape of the fumes.

The reverse is to take such non-cohesive gold and subject it to the proper heat to anneal it thoroughly. Often gold may have been accidentally exposed to vapors of chemicals or medicines, and annealing will usually bring them back to proper cohesive qualities. If not, an exposure for awhile to ammonia vapor, and then annealing usually produces proper cohesive qualities.

All crystal golds, kept from moisture and other contaminating

influences are very cohesive. They can be made, possibly, purer than foil gold that has to go through the beating process. If two pieces of cohesive foil are brought into mere contact they unite. Crystal gold held together by the interlocking of the crystals, does not show much cohesion until the mass is well under condensation.

Crystal gold is often used to start fillings as it spreads some under the plugger, and wedges in between two opposing walls better than either kind of foil. Some operators prefer good crystal gold for the entire filling.

So far as any metallic substance can be, gold soft and pliable enough may be made to adapt itself very perfectly to the cavity walls, and thus prevent recurrence of decay. This, like anything else, perhaps, depends on the personal equation. A careless operator or one lacking in good common sense mechanical ideas, may fail to make a tight filling with improved gold, but with gold that quickly develops rigidity, the especially expert are sometimes baffled. In such a condition of resistance to manipulative operations, it is simply an improper material to use on the interior of a cavity; except possibly in the middle of a filling, away from the walls, and where it can be malletted into submission.

In contour work, and for surfacing large occlusal fillings the hard gold, as it used to be called, may be successfully employed where it can be unquestionably condensed without leaving pits that such gold has a tendency to bridge over.

The purer the gold the less it has the quality of resisting masticatory force or abrasion without spreading or yielding; but that depends something on the thoroughness of condensation under the mallet, and where needed a harder gold may be used in the finishing layers.

(To Be Continued.)

DENTAL PATHOLOGY.

BY GEO. W. COOK. B. S. D. D. S., CHICAGO, ILL.

DEAN OF DENTAL DEPARTMENT, UNIVERSITY OF ILLINOIS; PROFESSOR OF
"BACTERIOLOGY AND PATHOLOGY, UNIVERSITY OF ILLINOIS.

The discussion of a subject on disturbed nutritive function of the body, or any condition that may deviate from the normal, is a question of the highest importance to the dental profession. The question is frequently asked: "What makes these pits or peculiar spots upon the surface of the enamel of my teeth?" The dentist usually answers this by saying: "This possibly happened in your childhood," without having the slightest knowledge himself of the vast importance wherein the fundamental cause may lie. Up to the present time no one really has been sufficiently qualified to state with a certain degree of definiteness as to the true cause why certain changes take place as regards the color or appearance of the teeth, nails, and various other structures of epithelial origin.

Today we hear many medical men and dentists recommending their patients to feed their babies on substances that contain an abundance of phosphorous, calcium, magnesium and various other compounds of an inorganic nature. From a physiological standpoint this is the most foolish doctrine that usually leaves the patient or mother to wonder about the rest of her life and traditionally hand it on from generation to generation. Men who make such assertions, in the truest sense of the word, are void of the physiological knowledge that ought to be essential to the care of hogs. There might occur under certain circumstances some condition in which such treatment or diet might be of some value, but one who recommends it promiscuously is, as was stated before, incompetent to give advice on any particular subject.

Malnutrition may be produced through the abnormal quality of foodstuff, as well as some change of the functional activity of the cells that are to perform the function known as metabolic processes. When the functional activity of the cell has been changed in any tissue of the body, and if this change from the normal functional activity remains for only perhaps a few moments, we are then confronted with the difficult problem of determining to what extent and how

long this process may remain abnormal. Virchow described this process of tissue changes. If the condition continued for any length of time deviating from a normal process and yet did not go on to a hurried death, he called this process necrobiosis. In explaining in his original text upon this subject he says: "This is a condition of a comprising vitality depending upon malnutrition." Since this term has never been so very universally adopted the term degeneration, meaning a retrogressive change of the cells, is now commonly applied.

The form of degeneration that is discussed most is infiltration, which means that some new substance has been added to the cell. The difference between infiltration or metamorphosis of the cell is not at the present time very closely made out. This confusion perhaps rises out of the fact that the cytoplasmia of the cell is but little changed. The most common form of cell degeneration is absorption and retention of a harmless product into the cell. This is usually fatty, calcareous, glycogenic, and certain pigment elements that are carried to the cell, and because of its lack of destructive power and also because the cell is unable to throw it off, it remains there not altogether as a foreign product, but as a cell substance that has a certain activity which enters into the process of tissue changes. It sometimes results that owing to chemical changes that take place during the metabolic process, these agents may convert some of the normal cell substance into pathological changes. When such a change has taken place in one cell, another and another cell gradually takes on this function until the tissue in that neighborhood becomes what is known as degenerated tissue.

So in speaking of degeneration of tissue we mean by that term that certain functional activity of the tissue has deviated from the normal; yet in many respects it is not recognized except under the microscope, and even there it is not always an easy matter to interpret the phenomena that has taken place in the function of that tissue. When we have fatty infiltration we mean that the tissue cell takes into its cellular substance and retains fat. This, as we all know, up to a certain degree is a physiological phenomenon and becomes pathological when it occurs in unusual excess and degree in the tissue. Under normal conditions, the deposition of fats usually occur only in the subcutaneous cellular tissue. The increase of fat, as we have just

said, occurs under normal circumstances only in certain tissue. It may occur, however, under abnormal conditions in certain organs and in special local areas of the body.

Fatty infiltration frequently occurs in the liver in tuberculosis, and in various other localities or organs of the body that have to perform certain eliminatory processes. Local fat accumulation is shown best in a little tumor known as lipoma. Probably the most common cause of fatty infiltration is inheritance. It may also depend, however, on excessive nutrition. This last named condition is best illustrated in that most well-fed persons are stouter than those who are poorly fed.

We find in some cases of anemia that we have fatty accumulations in the subcutaneous tissue. The question is frequently asked, How can an individual be anemic with such an accumulation of fat? This is due, in the majority of cases, to insufficient oxygenation of the blood, diminishing the fats in the circulating blood, with the result that the fats become deposited in certain tissue cells. Under physiological conditions the fat is usually deposited beneath the skin and in the areolar connective tissue, and there it cannot escape the infiltrative processes of the tissue.

There is another form of infiltration of tissue that seems like a peculiar type of cellular change. This degenerative change is known as glycogenic. As is well known to pathologists, this substance becomes deposited in the epithelial cells of the liver and kidneys, occasionally in the muscles and in embryonal tissue, and if there it is formed in small quantities it is not considered pathological. In certain diseased states, however, it becomes abnormally deposited in some cells, which results in a rapid dissolution or loss of function of the cell. If such a condition takes place the physiological function of the cell is soon lost and the dissolution may take place in such a way as to bring about the formation of abnormal structure. The source of glycogen is not a well understood physiological phenomenon. However, it is believed by those who have given the subject considerable thought that it is a carbohydrate, but that it may come from the carbohydrates and proteids. It is a substance that is easily converted into dextrose. It is thought by some that in this form it is stored in the tissues for some future use. In pathological conditions it appears in small quantities in the blood and pus, and in diabetes it is found

in the cells of the liver in large amounts. The etiology of pathogenic glycogenic infiltration is usually dependent upon the individual's inability, as a physiological process, to properly utilize and regulate the changes that take place in the carbohydrates of the body.

This process of tissue degeneration with that of some other process of infiltration will in the future be one of the most important problems to solve in the oral mucous membrane, for the preservation of tooth substance in its normal state in the oral cavity. I hope to publish in the near future some interesting experiments and useful findings of these pathological tissue changes in the oral cavity.

There is a form of degeneration of tissue which is an infiltration of a serous substance in the tissues known as odema of the cells, sometimes spoken of as dropsy or called hydroptic degeneration. It may sometimes follow inflammation or hyperaemia or in some forms of tumor whereby the local disturbance of the circulation takes place. The naked eye will not reveal any cellular disturbances; it is recognized only when the cells are viewed by the microscope, which shows that they are large, soft and moist; sometimes the cell is many times larger than the normal tissue cell. This is a condition that can be observed in the mucous follicles of the gum tissue, and especially along the line where the mucous epithelial that is brushed during the process of cleaning the teeth, and that mucous portion that the brush never comes in contact with. However, in a few instances I have seen it on the lips and buccal mucous membrane. In one case, that I wanted to make a microscopical examination of, I clipped out a small piece of mucous membrane with a fine pair of curved scissors, and on examination the entire microscopic field was studied throughout with these serous infiltrated cells. On a close examination and observation of the case I discovered that a large portion of the epithelium was filled with serum instead of mucous. There were many interesting points about this condition that made it worthy of extended study, and I therefore gave this pathological condition some consideration in the particular case just quoted. At some future time I hope to give a more extended account of serous degeneration of the mucous membrane of the oral cavity.

Calcareous infiltration is one of the phenomena of all the forms of tissue degeneration. It is peculiar in that the inorganic salts are deposited in the cells and tissues in such a way as to form a hard,

bony substance in the tissue. It differs, however, in some particulars and that is that the lime salts instead of being deposited in the cell they are deposited between the cells, and in that way instead of interfering with cellular activity of the cells themselves the deposits are so arranged around the cell wall that they interfere with the osmotic pressure that is so essential to cellular activity. The term calcific degeneration covers a broader field than should belong to this pathological process. Urates that are deposited in the tissues in gout really do not belong to this subject and should be treated under a different head. The cause of calcific degeneration is supposed to be due to a deficiency of oxygen and an excess of carbon dioxide, which cause the carbonates and phosphates of magnesium and calcium to be precipitated. Improper oxygenation of the blood is presumably one of the important factors causing this process, and it will be found in the majority of cases that where there is a tendency for the local tissue to undergo calcific infiltration there is always to be found a tendency to arterial sclerosis, and after death the lime salts will be found sometimes in considerable quantity deposited in the valves of the heart.

It has been my privilege on two occasions to examine teeth that were apparently of as sound nature as teeth could be, and the individuals so far as their histories were concerned had never been troubled with any dental interference. The individuals died from arterial sclerosis; the teeth were examined, along with a post-mortem examination, and it was found that the pulps in the thirty-two teeth had all undergone calcific degeneration. Calcific infiltration or a tendency to such conditions in an individual have a fundamental bearing upon the dental organs, and it has been my observation of several years of close study that a person having the long bluish-white teeth have a predisposition for the formation of lime salts in certain tissue structure. In a vast majority of these cases it will also be observed that the skin has rather a bluish-pink color, and which shows that the venous circulation is in some way interfered with. If occasion should demand the extraction of teeth in such individuals it would be well to observe whether or not the pulps of the teeth have undergone calcific degeneration. I think a close observation will reveal such a fact.

One of the strange tendencies of calcific degeneration, especially where it takes place in the walls of the blood vessels, is that it occurs in the large blood vessels first, and usually by the time it is to be

found in the peripheral blood vessels the larger vessels have undergone considerable degenerative changes, and in a large majority of instances, or I might say by a larger majority of cases, the individual will have passed away before such degenerative changes take place in the peripheral cells.

Dr. J. L. Miller, in a long series of investigations on animals, found by raising the blood pressure in animals by certain poisonous products, that the degeneration of the vessel walls took place in the larger vessels, and as the experimental observation went to show the small vessels were the last to become degenerated. In similar experiments carried on by myself I was able to raise the blood pressure by certain toxins and ptomain of bacteria and many other poisons of a stimulative nature, to find that the degeneration took place in the large blood vessels. But I was unable to determine any degenerative changes in the blood vessels in the mucous membrane of the mouth, the periodontal membrane around the teeth, and the periosteal blood vessels of the jawbone surrounding the necks of the teeth. These observations differ very materially from those of Talbot. I must confess my inability to obtain any of the tissue changes that Dr. Talbot seems to have found in his experiments. If time and space would permit I would like to go more fully into the detail of these experiments. But suffice it to say at this time that my observations lead me to believe that the degeneration of the walls of the blood vessels in their peripheral endings very seldom, if ever, undergo any degenerative changes, except possibly a few instances in the kidneys and liver—in special diseases like that of the irregularity in the distribution of the inorganic elements in rickets and osteomalacia. In such cases we find that the lime salts are interfered with in such a way as to bring about any irregularity of the deposition of these elements, which is the result of malnutrition in which all of the metabolism of the body is interfered with. It has long since been observed in bichloride of mercury poisoning that bismuth and aloin bring about lime absorption of the bones. The redistribution and elimination are conditions that were early observed by the Germans and called Kalk-metastas. In such poisonous conditions the lime salts are rapidly absorbed and eliminated through the organs of elimination. It is probably true that such poison or intoxication is the result of osteomalacia and osteopathyrosis.

The cases usually observed in which the lime salts deposit themselves in the cells instead of between the cells, or, in other words, the intercellular substance, are those in which the epithelial pearls of epithelioma appear in the nerve cells of the ganglionic structure. The intercellular deposits of the mineral salts are usually amorphous granules, while the deposits of the extro-cellular are more liable to be a crystalline deposit. The deposits of mineral salts in the nervous tissue (psammoma) occur usually in the form of concentric sphere or laminated spicular cylinders, scattered throughout the matrix of the tumor. The lime salts found in all of these deposits are usually insoluble in water, ether, chloroform, alcohol and xylol. They are soluble in dilute acetic acid and in hydrochloric acid. In the calcific degeneration of the pulp the deposits are more soluble in sulphuric acid than they are in either of the acids above mentioned. This is possibly due to the fact that there is usually much more moisture in the mineral deposits found in the connective and nerve tissue outside of the pulp chamber, than it is in the pulp chamber itself, consequently the sulphuric acid would become dissipated in the tissues where the circulation was more prominent than in the pulp tissue. Therefore the pulp tissue only contains a sufficient amount of moisture, especially in calcified pulp, to be attractive to the sulphuric acid. I think this will account for the readiness with which the calcific deposits in the pulp are much more soluble in sulphuric acid than they are in other tissue.

ORIGINAL CONTRIBUTIONS

TOOTHsome TOPICS.

R. B. TULLER.

Don't be a Dam Sozzler.

I say this advisedly, and with no profane thought. I am speaking of rubber dam.

Do you sozzle yours?

If you do, don't!

Why?

Because any way you can fix it, it is poor sort of dam economy.

What I have reference to by sozzle, is to wash and rewash dam that has been used—and reused.

I don't care how well you do it, your patient had rather have a new, fresh piece; and if they see it cut off the roll, so much the better.

Now, don't wash this new dam, even,—unless you can do it in a sterilized dish in sterilized water—but wipe it clean with a napkin moistened in some alcohol or alcoholic antiseptic that evaporates quickly.

It is new rubber and is supposed to be clean and sterile; but you don't *know* that, so don't use it without antiseptic precautions. Anyway it is likely to be coated with talcum which should be removed.

The talcum may be pure and cleanly, but it looks bad and when wet with saliva makes mud to be smeared around the lips.

You had better, by long odds, use a new piece of dam without washing, than a second hand piece that has been washed.

I suppose if you personally wash your dam, it will be thoroughly done, and perhaps you make it sterile. You may *think* so; but you, yourself, have got to use a good big lot of proper care if you can entirely eliminate that gluey, gooy stuff that sticks all around the hole when it has been up against the filthiest part of some tooth, for some time.

Now, I say filthiest advisedly, because teeth in the best kept mouths are more or less filthy with decaying food particles and films, and at no place more so than at the necks and you know that, now, don't you?

Take it home to yourself: which would you prefer if you were the patient, a piece of fresh new dam or some that had been used two or three times before? Come, now!

I am using very plain talk because I want you to see, you who haven't clear vision in this matter, what an unbecoming, unsanitary, and I could say criminal thing it is to use the same piece of rubber on two or more persons with chances of it not being clean and sterile.

"Oh!" says one, "I boil mine, and I boil it before my patients so that they *know* it is clean and sterile." Do you? Then you are a dam sozzler. You are the man I'm talking to. Excuse my candid (not candied) way. I believe you will if you follow this through.

Your patients know that the dam is boiled (sozzled) and is clean and sterile do they? Do they know that your boiler is sterile? Do they realize that you may have boiled a dozen pieces in there from different mouths and that you may have brewed a potpourri of germs that are sticking all over the inside of your pot?

Perhaps some of them have such thoughts floating in their minds, and if you asked them their preference, would quickly express it for a new piece. So would you in their place.

What does such dam economy profit you? Not a cent. It might, on the contrary, cause the loss of some patients who would go out, say nothing, and never come back. That's a loss that would be more than the cost of all the rubber dam you would use in many years, probably.

Admitting, for the sake of argument, that used rubber may be made absolutely pure, clean and sterile, it has been soaked a long time in another's mouth, and the thought is about as repugnant as using another person's tooth brush, or the one that belongs to the hotel or sleeping car. Wuh!

"But, madame (ususally madame), it has been boiled!—it has been *boiled!*" Wuh! Just the same, if it had been fried, scrambled or scalloped. Wuh!

Take it right home again; you'd have a preference for something that carried no suggestion of the other fellow's mouth.

And how about that other fellow's mouth that has had this dam soaked in it for hours, possibly? You can't think of it as nice, sweet and clean if you try; and maybe—*maybe*—it had some infectious disease, with the germs breathed on, rubbed on, spit on and glued on, to that same piece of rubber being prepared for your mouth. Do you want it boiled and sozzled around in a tin for awhile and then ligatured in *your* mouth—even for a short sitting, Mr. Dentist? Not you! The newest and cleanest is not too good for you.

Some dentists make a great display of efforts at hygiene and antiseptis before patients for effect. That is good and wise if consistently and understandingly and conscientiously done. It is a satisfaction to patients to know that you are thoughtful, careful and particular about those things. You can't be too cleanly nor too careful; hence I say don't use rubber dam again that has been stretched over the sweaty face and droolly chin and hugging the teeth of another person. The *thought* is repulsive to delicate tastes. If a guest at your table drops a fork or spoon, the suggestion of possible contact with something unclean is removed by substituting a fresh one at once. Be as nice in your office. Remember the tissues of the mouth are the most sensitive and susceptible of the whole human makeup.

I wish rubber dam could be fixed something like U. S. stamps; to be cancelled when used, and the offender liable to fine if washed and used again.

What do you use rubber a second time for? To save a few cents—and maybe you look like thirty doing it. See if you don't feel that way the next time you attempt it. I'll bet you will.

Don't get sore at me. I'm doing you a friendly service if you are still blind to you own interests. If every little square of rubber cost you 50 cents you might squirm some if you had to throw it away; but you will go right along and grind and disc and strip a gold filling from 50 cents worth up, and let it all go to waste. And you'll go right along and waste other things more valuable and never think. You are stingy on the things that you should be lavish with—perhaps napkins and towels as well. Don't! That's the wrong place to be skimpy. With boiled rubber dam you strain at a gnat and swallow a micro camel. If you can't see any other way, add 5 or 10 cents to the bill.

Now, we are open to conviction. We'll back up if we are wrong.

If you can sozzle or boil an old used piece of rubber, and can make it absolutely clean and sterile and acceptable for second use, will you please write us and tell us how you do it. And then tell us why you do it. We'll print your answer if you can make out any sort of a case,—and we'll publish your picture also if you will send it along.

Let it be known, far and wide, that the pages of this journal are open to every practitioner of dentistry who has anything of value to say. We cordially invite your communications.

In this case we do believe that no one can controvert our saying, "Don't be a Dam Sozzler."

A COMPARATIVE STUDY OF THE PHYSIOLOGICAL ACTION OF ANESTHETICS.

BY C. M. PADEN, M. D., D. D. S., CHICAGO, ILL.

PART. 2.

The close of our preparations, recorded in the last issue, left us face to face with the actual experiments. These had it in mind to determine definitely just how the pulse, respiration and blood pressure in animals differ during anesthesia from the same functions under normal conditions.

As these functional activities differ with different animals, the only accurate course was to take the respiration and pulse rate for each dog before any anesthetic was given, carefully record it and then do the same at frequent intervals under anesthesia. Therefore the pulse and respiration of each animal was recorded before the anesthetic was applied. It was not possible to take the blood pressure then, since that required surgical intervention.

The pulse and respiration being duly recorded, the dog was deeply anesthetized, an opening made down to the femoral artery and a cannula introduced. A cannula is a tubular appliance by which the blood is brought into contact with a column of mercury. As the blood pressure varies the height of the mercury column is changed, and these changes are indicated by a pen, which traces the record on a revolving cylinder.

It was an interested group that gathered about the table to record, for the first time in this country, the results of accurate experi-

ments with somnoform. Some of us had taken this anesthetic. We had felt the subjective phenomena and now took keen interest in knowing just what had occurred. Some of us were in the habit of administering it frequently. We looked forward eagerly to an exact



knowledge of what had occurred when we thus assume responsibility for the life of another person, as the anesthetist always does.

This illustration shows the group with the appliances in place for the first experiment. Reading from left to right the persons are T. E. Pawley, Dr. Gabby, Dr. Dreyer, Dr. Paden's assistant, and the writer. The dog is on the table, deeply anesthetized with the modified somnoform inhaler. The apparatus may be best understood by reference to the letters.

"A" shows the location of the cannula in the femoral artery. The letter "B," close to it, indicated the connection of the cannula with the mercury manometer, which is marked "F." "B" on cylinder indi-

cates the line showing the number of the heart beats. Above the manometer is a pressure bottle, "G," essential to the securing of proper records.

This mercury manometer controls, at the end farthest from the



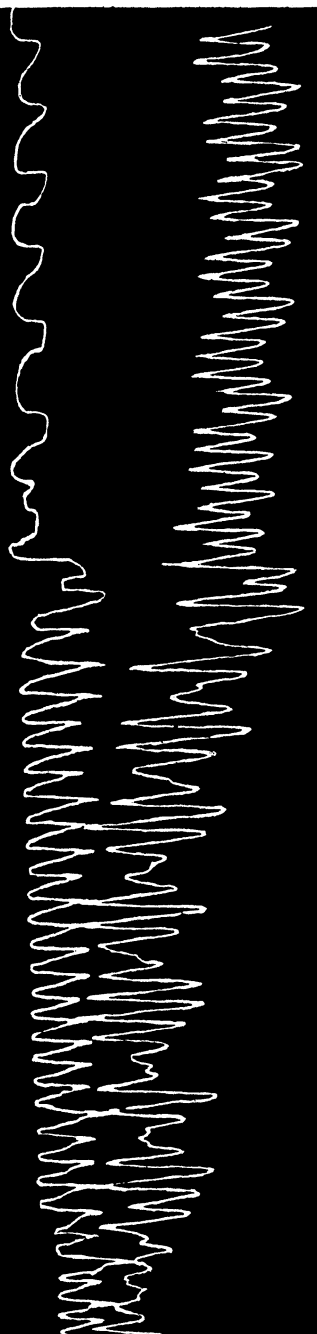
dog, a very sensitive marking pen, which reaches to a revolving cylinder "H" and thereon traces every least fluctuation in the blood pres-

sure in the femoral artery. When the importance of this artery is recalled, it will be seen that it is practically the same as the cardiac pressure. At "C" on the dog is the apparatus for measuring the respiration and at "C" on the cylinder, the other end of this apparatus, a pen which traces the respiration, forming the second line from the top.

It would be of little use to have these records if the times and various functions consumed could not be accurately determined, so an electric clock forms part of the appliance, and once every second a vertical mark is made across the lowest line on the drum. The space between each of the marks indicates one second, and whatever is recorded by the upper pens between any two or more occurred in that period. This brings us to the study of our first record and its meanings. In studying these records it must be remembered that they do not show the condition immediately following the induction of the anesthetic. It takes about 30 minutes to make the opening, connect the cannula and get the appliance in good working order, so that when the record begins there has already been an anesthesia much longer than that indicated for any dental operation, and if the anesthetic is to exert any injurious effects they should soon be manifest.

*Taking the tracings on this record slightly out of order, for sake of clearness, we find at the bottom a line marked "d" with the little vertical lines made by the electric clock at intervals of one second. Next above it comes the line "c," which is the line of zero blood pressure. That means that if the blood pressure in the animal were reduced to nothing, the recording pen of the manometer would trace along this line. In proportion as the blood pressure is higher, the manometer pen traces above this line. The distance between the zero line of blood pressure, "c," and the point where the pen traces is measured in millimeters and the blood pressure is said to be so many millimeters. The line "b" represents the tracing by the needle connected with the respiration apparatus and accurately shows any respiratory changes.

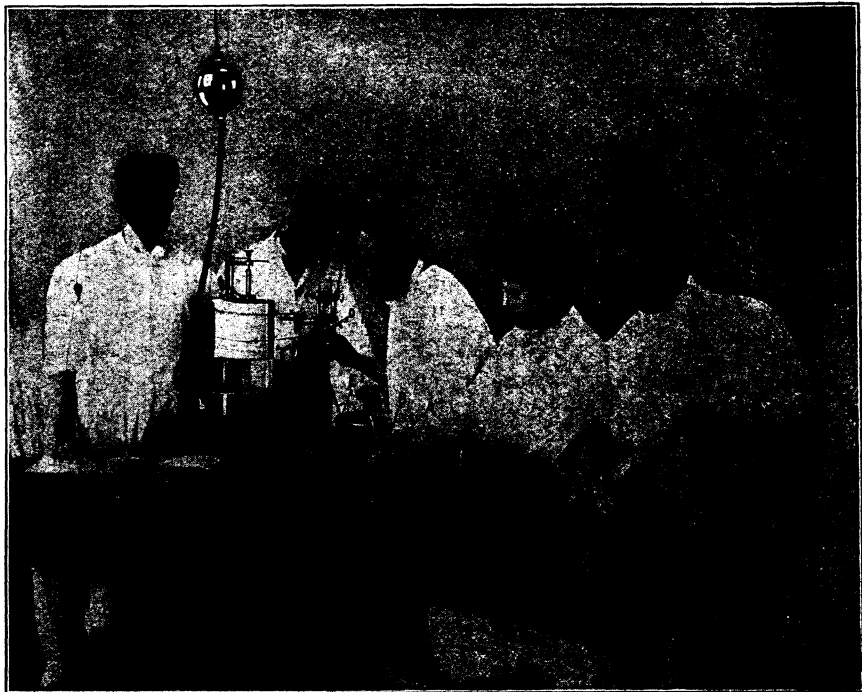
The space shown in this record (which is merely a section selected at random from a roll several yards long) covers one-half minute. Doubling the number of contractions to get a full minute, we find that after thirty minutes of anesthesia, during which the apparatus was arranged, the pulse rate is 108 per minute. The higher points shown in this line are the contractions of the left ventricle;



the lower points the arterial contractions. There is normally quite a difference in the force of these two, but the curves for each form of contraction will be found very constant.

Doubling the respirations in the same way, we find the respiratory rate to be 32 per minute.

As mentioned above(the blood pressure is measured in millimeters from the line "c" to where the pen traces. In this case we have



a distance of 180 millimeters. Here, then, is a surprising and most satisfactory condition. We have regarded somnoform as a short term anesthetic, and there have been brought to our ears all sorts of horrible tales as to what it will do to a patient if anesthesia be continued more than a couple of minutes. Yet after more than 30 minutes of deep anesthesia we find this dog in a most satisfactory condition. This is a clinical proof of the most convincing form and as the writer witnesses the various experiments the tales of those who often say to him, "You'll kill somebody yet with that stuff," sounded more

and more faintly in his ears. Their impressions, born of lack of knowledge, cannot withstand such evidence as this.

After another 25 minutes of anesthesia, during which further experiments of the same nature are conducted, it is decided to stimulate the end of the sciatic nerve with electricity. An incision was made over the nerve and the electrodes applied as in "ABC." A wire connection from the electrodes governs a marking pen, "D," which will record on the cylinder the instant the stimulation is applied, and its continuance. Just before the stimulation we note that the pulse is 100, blood pressure 180, and respiration 32; these after practically an hour of deep anesthesia. The blood pressure is high, indicating that the vaso-motor center on the medulla is maintaining a strong tonic activity. If this center be not paralyzed but sensitive to the stimulation of the sciatic nerve we shall get a dilatation of the blood vessels, with a consequent fall of blood pressure.

**The record above shows the effect of this stimulation. At the point marked "A" the stimulation begins and continues about 21 seconds to the point marked "b." The response to the stimulus is immediate, denoting a sensitive condition of the center. We get the expected fall of blood pressure. Some of the experiments show also a rise, but the fall is much more common. The respiratory center also shows that it is not paralyzed, nor its activity impaired. The breathing at once becomes more active, as shown by the second line from the top. These records being eminently satisfactory, it is decided that the next experiment with this dog shall be to stimulate the central end of the vagus or pneumogastric nerve. The next paper will deal with this experiment.

THE FORTY-THIRD ANNUAL MEETING OF THE STATE DENTAL SOCIETY.

BY OUR SPECIAL LADY REPORTER.

The Chicago contingent left Chicago via Wabash railroad ninety-seven strong (three having escaped) the night of May 13, at 9:15. I believe the distance from Chicago to Quincy, Ill., is some two hundred odd miles, but if each separate individual could have been

Note.—Correspond with similar ones in table which will appear in later number, and indicate the readings from these records.

fitted out with a cyclometer in some way it would be interesting to find just how far we really traveled, not only in our onward trip to Quincy, but from side to side in our berths. Of course, it would vary, as there were two in some of them and only one in others. In physics we were taught to believe that any body or atom can move only in one direction at one and the same time, but it was demonstrated that night that that is erroneous, as up and down from side to side, backward and forward can be done under some circumstances for ten hours without cessation: Results?—That is a matter to be decided purely by individuals, but as the longest night has a dawn and the roughest road an end, we finally arrived at Quincy about 8:30 the next morning and were greeted by one of the brightest of suns and a brass band. The band certainly played with a zest that bespoke welcome. We were thus escorted to our hotel and here the scrabble began; seemed as though every one wanted everything all at once, the most crying want being breakfast. During all this time the band was still playing "welcome" and it was remarked about the drummer that they knew he had had his breakfast all right! By 10 a. m. order prevailed—the hungry had been fed—the homeless housed and the seeker after knowledge being taken care of at the "Courthouse" where the sessions were to be held. Business was taken care of, address of welcome and response, annual address by the president and the respective papers, with subsequent discussions, followed with more or less regard to the program. Dr. G. W. Cook, of Chicago, in his paper on "Dental Science and Literature," concisely gave us good practical suggestions along these lines. The doctor made a plea to dentists to make a practical research for themselves, 87 per cent of dentists today using stuff that they know nothing about. Some authorities state on thing, another says that is all wrong, so to be intelligent, dig it out yourself. In the discussion that followed, Dr. G. V. Black said that a broad appreciation of physics was of great value in dentistry. We have got to do something for ourselves before any one will help us. It takes a census of opinion to prove anything. Dentistry has advanced so in the last few years that a great difference is noticed in the countenance of individuals one meets in a day's journey. Dr. N. B. Noyes stated in this connection that we should be like pioneers in our training so as to be awake to the little things taking them for suggestions; to learn to

tell by the looks of the road how many had gone that way before, to be able to determine the prevailing winds. In our research one so many times comes across terms, that even though it hurt their pride they must admit they do not understand; so get out text-books—study them up, then proceed with the article intelligently. This is a great step in research work. We do not remember who made this statement, but the fact that so many of the best text-books are written in a foreign tongue, brought out the fact that one should also be conversant in the other languages. In fact, a thoroughly scientific atmosphere is the one for a dentist to thrive in. We had all gotten rather serious when Doctor Cormany, of Mount Carroll, claimed our attention in his breezy paper on "The Dentist of Tomorrow." It was purely optimistic and surely cheered the heart of the successful as well as the soul-wearied practitioner.

So many conclusions and conditions are the result of the law of suggestion followed by desire and at last the state of "can't-do-without," with all of its subsequent actions is arrived at. In the Declaration of Independence it reads, "the states are free and independent"; why can we not say the dentist of tomorrow is the dentist of today. There are always two voices—one of fear and one of confidence. Which will you follow?

The dentist should always have a firm grip on self—say to himself, "*I am* the dentist of tomorrow today—I *am* a city dentist practicing in the country and I draw a long breath, too, without going into seclusion to do it." One must not lose sight of the fact that good thoughts are healthy, and resultantly the reverse is true. The dentist to be perfectly happy must not believe all that he hears at dental conventions. Picture to one's self orange groves, salubrious climate, in the prospective possibly, but picture them anyway; running brooks, singing birds, sunny skies and a land flowing with milk and honey, then will the dentist as well as all humanity be able to sing like the prophet of old "Oh, King, Live Forever"! The discussion was opened by Dr. E. F. Hazell, of Springfield. In the course of the discussion Doctor Cormany was criticised for advocating "Christian Science." This was quickly answered by the doctor in the statement that what he said appealed simply to the mind of the individual. Doctor Jackson made the statement that mental conditions are capable of completely changing conditions of body. It was all summed up by saying that the happy condition of mind does certainly help us all, but that

we must not confound good common sense with what is advocated by cranks.

Another paper we wish to just touch upon is "Gold Fillings versus Inlays," by Dr. D. M. Gallie. The doctor read his paper with a vim that carried conviction with it. Before we could quite grasp a statement it had been proven, beyond a doubt, and already we were having another aimed straight at us, and it generally hit us square between the eyes. Briefly the dentist must be up in the arts and sciences and he must be an artist and artisan. There is more to dentistry than extracting teeth and plugging up cavities. There is no one method that claims all the virtues of tooth restoration neither one that contains all the faults. In spite of the enemies that foil has it still holds its own, even though some say it is an absolute failure. Its advocates have certainly been led by a Moses and its enemies are lying in the trenches.

Both foil and porcelain have their places. Work in porcelain is indicated when it is in direct line of vision. This was ably illustrated by whens and wheres concisely given. Doctor Gallie further suggested the use of gold and platinum for incisal and porcelain for gingival thirds.

There are many reasons why work is a failure. Cavities are found in an unclean environment and left that way; although inlays may fit accurately, it is safe to say that the cement which holds the inlay is uncertain and unreliable, and is affected by the fluids of the mouth. Again, the time of hardening differs according to way of working. The conductivity of heat and cold is broken up by inlays. The discussion was opened by Doctor Ditmar, of Chicago. Doctor Gallie's position was not assailed to any great extent, but we were again enjoined not to be cranks and to avoid hazardous environment. Doctor Reeves stated that in his estimation the use of porcelain is limited only to the manipulation of the operator.

Doctor Olson, of Galesburg, in his paper on "Extraction of Teeth," gave many splendid suggestions. First and foremost, it should be based on judgment, then as to when and why. Amongst the reasons why, were given: First, lost vitality; second, absence of occluding tooth; third, abscesses that do not yield to treatment. Many times old roots can be saved by putting on crowns and soldering together. All extracting can be divided into six classes, each of which demands different motions and combination of motions. There are

many different instruments at the disposal of the operator, but the best are made only of the best steel and are nickel-plated.

The anæsthetic should be given by some one who understands the patient—if possible in the morning—and in a temperature of about 70°; food and drink should be restricted for a few hours previous and a laxative given. Excementosis is often met with and is caused by mechanical effort like cracking nuts, etc. Old people usually have it.

Dr. A. Brom Allen opened the discussion. Doctor Allen thought the point as to crowning old roots a good feature, but took some exceptions to some of the different motions Doctor Olson had suggested. Doctor Allen suggested in extracting to be guided by the way of least resistance and advocated the use of butt-end forceps. The idea of holding the fore finger of the left hand at base of tongue to keep fragments, if any, from going into the throat, was another good idea of Dr. Allen's.

The advantage of cement as a cavity lining by Doctor Corbett, of Edwardsville, was listened to with much interest. The doctor stated that he had inserted over twenty thousand fillings according to his method successfully and was therefore naturally an enthusiast. "Gold in the hands of experts will be successful, but cement in the hands of less proficient operators will be more successful than gold." There is no inlay that of itself will exclude moisture, that is dependent entirely upon the cement. Gold can be handled just as artistically with cement lining and is much stronger. All inlays are on equal footing when cement is used. The value of cement in anchoring the fillings and enabling them to resist mastication is without a rival.

We can just touch briefly on some remaining talks and papers that were without doubt master efforts and one was constrained again and again to say: "Oh, if we could but store this all up and be given the wit and wisdom of these master minds so that we, too, could know when and where to apply it intelligently"!

Dr. W. H. Taggart, of Chicago, kindly consented to show and explain his models as used in his table clinics on "Cast Gold Inlays" at an afternoon session and right here we are compelled to refer to a very unpleasant incident; Doctor Taggart's models are works of art, surely, and his first, though sort of undeveloped child of his brain, while crude according to his views, are certainly not considered so by other scientific men as they are to be placed in a museum, being

the first and therefore historic. The doctor explained this fact and so made a special appeal to use care in handling so as not to injure them. At the end of the session there were two of the models missing! Ananias was struck dead according to biblical lore for telling a lie. Lot's wife was turned to a pillar of salt for looking back. What was the punishment of the thief to be? It is hard to make a description graphic enough to explain the beauty of those models and the different steps of their formation, but a few statements as given by Doctor Taggart of his *modus operandi* may be timely with apologies, doctor, in case we go astray. One was to show how pins are put in; another showing the use of diatoric teeth and how the gold can be easily molded around them; another showing how this method can be used where ordinarily the tooth would have to be cut off and crowned. Then, again, what can be done in bridge work; removable piece with Brewster facings? One can get perfect designs from the molding process. Doctor Taggart went into detail to show how work is done. One must have a special wax for the work to begin with, special because there is no foreign material in it. Take a piece or wad as big as the end of a finger and mash it down in cavity, bite on it and chew to get occlusion, then unseat. Be careful in unseating so as not to change. While in mouth trim off excess with an instrument no less sharp than a lance, then the patient must bite again. So much for getting your wax model, remembering that the more artistic your model the more artistic your inlay will be. Any grade of gold will do, bearing in mind the importance of not mutilating the model. Then follow directions as to burnishing and finishing up the work, after the cast of gold has been formed according to the model.

Of all the many good papers that space forbids only referring to, when such men as Dr. J. P. Buckley, of Chicago; Dr. J. H. Prothero, of Chicago; Dr. Lawrence, of Bethany; Dr. L. S. Lowrie, of Chicago, and Dr. Black are given as the writers, enough as to their respective merits is certainly said.

After all this feeding of mind and feasting of soul, we left Quincy at 3:30 p. m. May 17th on a special via Wabash. We had all been led to expect a long, joyless, rough journey; it *was* long according to hours, but we did not realize it, we had such a good time! It certainly was not joyless, cards and frivolity of all kinds being in order; and then the fine dinner! We have the bill of fare before us now, gotten up especially for this occasion and while we have just fed the

inner man when we look at all the good things as written out—"verily our gastronomical machinery yearns within us"! And history did not repeat itself in this instance as it was not rough; while in the interval of the four days which had elapsed since we went over the same road-bed it had not been altered at all, it seemed different, as at a rate of seventy-five miles in seventy-two minutes, which I understood was our *gait*, we naturally only touched the high places, arriving exactly on time, 11:30 p. m.

We think we echo all opinions when we say that from every standpoint it was a successful meeting. Quincy was courtesy itself, the hotel management genial, hospitable and accommodating; even the weather man so atrocious this year smiled warm and sunny part of the time. Who will soon forget all these delights?

ABSTRACTS AND SELECTIONS.

PROTECTION FOR THE DENTIST AGAINST SPECIFIC INFECTION.

EDITORIAL IN DENTAL SURGEON.

Every day it is becoming better recognized that all individuals about to be treated with mercurials or in whom this line of treatment has just been commenced, should have their mouths made clean and healthy at the earliest possible moment. It is now generally admitted that the stomatitis formerly so common during such treatment, though due to the irritation of the oral mucous membrane by the excreted drug, is largely preventable.

It has been found that while when through neglect the mouth is septic and tartar has been allowed to collect on the teeth the inflammation is apt to be very severe, running on in some cases to ulceration and even gangrene, in clean and properly cared for mouths it is never really troublesome. The advantages of such dental treatment in these cases then are two-fold. Not only is the risk of severe mercurial stomatitis made more remote, but it is possible to get the patient far more thoroughly under the influence of the drug before tenderness of the teeth and gums necessitates its administration being stopped for the time being.

The consequence of this recognition is naturally that the average dentist, though more particularly, of course, those in close contact with medical men, are receiving an increasing number of patients who are the subjects of specific disease and whose mouths are apt to be in a highly contagious state. As a rule he is forewarned in such cases, as the patient has generally had it pointed out to him how necessary it is that the dentist should be acquainted with the state he is in. Sometimes a note is written to the dentist by the medical man to the effect that the patient is undergoing a course of mercurial treatment, and that his mouth is to be put into as hygienic a condition as possible, but in many cases as will be seen later, he may be quite ignorant of the patient's condition. We have had occasion in more than one instance in reviewing works on dental surgery to call attention to the fact that, although the operator is advised to take every possible precaution for his own sake in addition to that of the patient, next to no attempt has been made to point out what can be done in this way. Under these circumstances it appears to us as likely to be appreciated by some of our readers if we endeavor to supply such omissions and indicate some of the directions in which such efforts may be made. In the first place, it may be pointed out that the risk to the operator affords an additional reason to that indicated on page 68, why every instrument should be at once disinfected and sterilized.

Should he inflict even a trivial scratch on himself with an instrument which has become infected by a specific mouth and which has not been so treated, the result may be highly disastrous. The great advantage of the use of the rubber dam, so far as the patient is concerned, has been already pointed out, but it is when dealing with mouths which it is known are likely to prove an active source of infection that the protection to the operator likewise is equally great.

Before proceeding further, it may be mentioned that, for the sake of other patients, such a case should be attended only at the end of the day's work, and if possible in a different room to that ordinarily used. In many cases it may be possible for the operator to wear india-rubber gloves or finger stalls, which are, on every occasion, carefully sterilized, but the use of these is not always practicable. Yet it is quite clear that a dentist, especially one who is in the habit of doing part or the whole of his mechanical work himself, is apt to have little cuts, etc., on his fingers, any of which may prove a

source of infection. It must be borne in mind, moreover, that, although some solution of continuity is probably necessary, that infection may occur through some very slight lesion present upon the skin, such as eczema or dermatitis, due to the use of antiseptics and irritants. The dentist, therefore, cannot be too careful as regards the attention he bestows upon the condition of his hands. Regarding the treatment of little cuts, etc., many practitioners have been, we are aware, in the habit of closing these with court plaster, collodion, or, better still, flexible collodion. No one of these is, however, very satisfactory, for all are apt to either come off or crack.

Under these circumstances, it is pleasing to us to be able to call attention to some other preparations, some of which we are ourselves in the habit of using. In the course of a paper, entitled: "Some Improvements in Cutaneous Therapeutics," read on January 16 before the Einburgh Medico-Chirurgical Society, Dr. W. Allan Jamieson called attention to Epicolloid and its combinations. He said that in 1893 Dr. Leslie Phillips directed attention to a proprietary substance called "Kristaline," a celluloid varnish which was used to give a transparent and indestructible protection to metal ornaments as a colorless film which prevented oxidation. This, he stated, was a solution of pyroxylin in wood naphtha or methylic alcohol. It had a peculiar odor, recalling that of amyl nitrite or pine-apple drops. This he recommended as a substitute for collodion, but it never obtained the notice which it deserved. Much more recently a similar preparation, having the attractive name of "New Skin," had been introduced and had a considerable reputation and sale. At Dr. Jamieson's request Messrs. Duncan, Flockhart & Co., had prepared a solution of pyroxylin in acetic ether, to which they have given the provisional name of "Epicolloid." This had been tinted a pale pink, in order that it might more nearly approximate the color of the skin. It had the advantage over collodion, even the flexible sort, that, drying more slowly, it formed a closely adherent, smoother, finer, more pliant and impervious coating, firmer than "New Skin" and less pungent than "Kristaline."

He called attention also to ichthylol court plaster, saying that sometimes they wanted a dressing of a more solid kind, and for such cases a thin plaster was the most efficient. British court plasters were all, in his experience, spread on too thick a silk, hence they could not be got to lie close enough to the surface; they tended to curl up,

and in all cases soon separated or washed off. He had found the ichthyol court plaster quite an ideal one.

If while operating on what is known to be a dangerous mouth the dentist has the ill-luck to cut his finger with an elevator or other instrument, as has happened before now with the worst results, what can be done? Until a year or so ago practically nothing.

It may be remembered that on previous pages we referred to some experiments of Metchnikoff and Roux which showed that it was possible to cause absorption of the chancre following inoculation of syphilitic virus on the eyelid of a chimpanzee by carrying out mercurial inunction less than one hour after the infecting contacts (a curious point being that a solution of sublimate had not the same protective action).

On a further page we were pleased to be able to report that the ointment used in the prophylactic process was composed of ten parts of calomel to twenty parts of lanolin, but a more important question remained, viz., whether what was the case with the monkeys would be the case with man? Many persons aware of these researches offered to allow themselves to be inoculated. Dr. Metchnikoff chose a young medical student, the grandson of an eminent surgeon, who was preparing his thesis on the prophylaxis of syphilis. He had neither hereditary nor acquired taint of the malady. He was inoculated on February 1 last year, in the presence of Dr. Queyrat, of the Cochin hospital, Dr. Saboureaux, of the Pitié, and Dr. Salmon, of the Pasteur Institute. Three scarifications with the scalpel were followed by the introduction of the poisoned virus. An hour later the inoculated spots were rubbed with the calomel ointment. The same thing was done with a monkey. Neither man nor monkey suffered any evil effects, whereas other monkeys, also inoculated at the same time but not treated with the ointment, contracted syphilis. The experimenters discovered, however, that in the case of a monkey the ointment must be applied within twenty hours after inoculation, otherwise the infection declares itself. Dr. Metchnikoff affirms that if the time-limit is respected immunity is complete. He read subsequently to the Academy letters from the three specialists above mentioned, affirming that the young man inoculated showed on May 8—that is to say, more than three months later—no trace of syphilis, and that he had never had it.

All these points were referred to in the third Harben lecture

delivered, as already reported, last May, at the Royal Sanitary Institute, in French, by Dr. M. Metchnikoff.

The lectures have been since translated into English and are now obtainable. Moreover, the thesis previously referred to has also been recently published, its author being Dr. Maisonneuve, who was the subject of the experiment. In the first part of his monograph the author reviews the various lesions by means of which the infection may be conveyed from person to person, and from man to apes, the conclusion arrived at being that syphilitic lesions, whether primary, early (including congenital syphilis), or late, contain the virus, but that gummata are rarely, experimentally at any rate, the source of infection. Further, for infection to occur, there must be a solution of continuity. This open door being usually superficial, he asks whether it is possible to attack the virus *in loco*, and thus prevent infection? After touching on various points germane to the subject, the author goes into minute details of the inoculation experiments on monkeys and on himself, which have been already referred to. Doctor Maisonneuve considers that these experiments have decisively proved that syphilis can be prevented in this way, and has indeed been prevented in his case. With regard to this the *British Medical Journal* has pointed out that doubt has been thrown on the value of this single experiment in man, various disturbing factors suggesting themselves. Moreover, Neisser's experiments on monkeys do not confirm the efficacy of the ointment in every case; he failed in 100 out of 200 cases. Moreover, cases have been placed on record in which the calomel ointment failed, even when applied immediately. Notwithstanding these failures, dentists, especially when dealing with hospital patients, should have some of this ointment handy to apply to any accidental wound or hitherto unnoticed crack about the fingers, etc.

Lest it be thought that we have intentionally omitted to do so, we must in conclusion refer to a point which is easily overlooked, viz., the possibility of what has been termed autoinfection.

In such cases the finger is proof against infection, but being inadvertently applied to some other part of the body a sore is developed there. It is clear in which direction care must be exercised to guard against this, and that the hands, even when well protected, must be thoroughly disinfected at the earliest moment possible.

The possibilities suggested in this article are unfortunately no

mere figment of the imagination. While this statement could be corroborated by a good deal of evidence, it is remarkable that such cases do not more often occur. The latest pronouncement on this point is to be found, we think, in a paper entitled, "Some Dental Questions from a Medical Aspect," read by Dr. F. H. Jacob, M. R. C. P., on October 30 last, before a section of the Central Counties Branch of the British Dental Association. In the course of this he said, "It is a constant source of wonder to me that dentists do not frequently develop a chancre on the finger, for syphilis is far more frequent than you probably have any idea of . . . you are not uncommonly extracting or filling teeth in a patient who is suffering from syphilis in the infective stage without your being aware of the fact, and it points, I think, to two facts: (1) that the mouth in such a case is less infective than one would suppose, and (2) that you do habitually exercise both care and cleanliness in a high degree."—*Dental Surgeon*.

THERAPEUTICS AND TREATMENT OF INTERSTITIAL GINGIVITIS DUE TO AUTOINTOXICATION.

BY EUGENE S. TALBOT, M. S., D. D. S., M. D., LL. D., CHICAGO, ILL.

Former research has been confined to etiology, pathology and diagnosis; I intend here to discuss treatment. For more than a decade I have paid special attention to constitutional treatment of patients that have required such services. This has been a most fascinating as well as satisfactory research. For reasons elsewhere mentioned, interstitial gingivitis due to autointoxication first manifests itself in the alveolar process. In therapy it was therefore necessary to examine the gastro-intestinal canal, liver, urine and blood pressure.

Of one hundred and fourteen patients under consideration, sixty-four had received local treatment by other dentists and obtained more or less temporary benefit. Later the disease had returned. The patients ranged from thirty-eight to sixty-nine years of age. All had symptoms of autointoxication. Eighty-two had more or less headache, eight at times had sick headache and vomiting, six were irritable,

Read before the New Jersey State Dental Society, Asbury Park, N. J., July, 1906.

forty-six were fatigued. These symptoms were due, no doubt, to the open winter. It was difficult for the eliminating organs to adjust themselves to the unusual climate of Chicago. Seventeen had muscle soreness and itching; twenty-two had neurasthenia to a more or less marked degree accompanied with neuritis; eleven had cutaneous eruptions; seven had arterio-sclerosis; sixteen had rheumatism; nine had albuminuria; two diabetes; twenty-nine were more or less nervous; six had asthma; ten were markedly constipated; eighty-four had gastro-intestinal fermentation which produces indol in the small intestines and indicanuria. The other twenty may have also shown indican since urinalysis in all patients with interstitial gingivitis has shown it. Thirty-two had flatulence to a marked extent; twenty-six had sour stomach; eight had had syphilis and seventeen gonorrhea; four had tuberculosis; two had pleurisy; nineteen had been previously sailed; one hundred and seven showed above normal blood pressure; all had interstitial gingivitis.

In treating such patients the stomatologist must be as familiar with general diseases as the physician. He must be more alert than the general practitioner, for the reason that the stomatologist can forewarn his patient of the oncoming storm, while the physician usually is not called until it has already broken.

The trend of medicine is toward prophylaxis. The stomatologist in treatment of interstitial gingivitis has the advantage of the general practitioner since he is thereby able to prevent the tendency to more grave disorders. Many times have I told my patients after urinalysis, that they were suffering with autointoxication which required treatment. They would later return with the statement from the family physician that they were in perfect health. Had the family physician recognized the tendency to grave disease portrayed in the mouth, his diagnosis would have been far different. The patient with interstitial gingivitis due to autointoxication is sick so far as the stomatologist is concerned, although able to come to the office and attend to his duties. He is not sick in the eyes of the family physician since the symptoms have not markedly manifested themselves constitutionally. When the organs are involved, although interstitial gingivitis be present, it is beyond the province of the stomatologist to treat such conditions. The attending physician should be informed. I have saved patients from an early grave by anticipating a tendency to grave disease avoidable by strict attention

to diet and treatment. In other patients, where grave symptoms were observable, I was able to inform the family physician in time to prevent serious result. In a few, it was impossible to prevent rapid progress of disease already well advanced when they came under notice. There are people in their graves who might be alive and well had they changed their methods of living when requested to do so. Club life and fast living have carried many a man and woman to an early grave. More people are injured by overeating than overdrinking.

EARLY SYMPTOMS OF AUTOINTOXICATION.

The first symptoms of pathologic effects due to autointoxication are observable in the alveolar process. In the treatment of interstitial gingivitis, the stomatologist should be mindful of the fact that the patient's system is tending toward disease.

After more than ten years' research, I am able to give a reliable treatment which graduates of any reliable dental school may prescribe with perfect safety and positive results.

In my discussion of "Interstitial Gingivitis Due to Autointoxication as Indicated by the Urine and Blood Pressure," I reported fifty cases. Every examination showed want of balance in the eliminating functions. Accumulation of waste products in the system means interference with oxidations as well as imperfect elimination. In most cases this interference with oxidation and imperfect elimination is due, first, to the senescent and tired out eliminating organs. With age the bowels, kidneys, lose tone, and as a result waste products or toxins circulate in the blood. Between twenty-five and forty, odors emanate from the lungs in the breath, from the armpits and about the thighs. The skin and the lungs are trying to do the work of the bowels and kidneys.

Constipation and want of proper attention of the bowels. This is particularly true of women. The fact that there are one, two, or even three loose movements of the bowels each day does not demonstrate elimination. A twenty-seven-year-old woman had been feeling uncomfortable for some time. There were no marked symptoms. She felt tired, face drawn, skin and eyes had a bluish color, headaches, and pain in the back. The alveolar process was tender and as she expressed it "itchy," teeth sore to touch. Urinalysis revealed specific gravity 1007, reaction acid, albumin trace, urea 0.7 per cent, indican, degree of acidity twenty in lieu of thirty to forty-five. She

had one, sometimes two movements a day. The bowels, however, were packed with fecal matter. Her physician requested her to flush her bowels with warm water and call the next day. On return still more fecal matter was found. Four similar treatments were required before the bowels were cleared.

A fifty-six-year-old woman had been treated locally by a dentist for eight years. Her teeth grew worse each day. The alveolar process was nearly destroyed; most of her teeth were banded. When she came to me she had a tired look, face drawn, skin and eyes discolored. The muscles of the right side of the face and lips twitched. She was taking pus into her stomach with every swallow. Urinalysis showed specific gravity 1029, hyaline and granular casts, a few pus cells, urea 2.6 per cent, indican, degree of acidity fifty. I removed the loose teeth and turned her over to her physician, who found the entire bowel filled with fecal matter.

In a similar case, a fifty-five-year-old woman had an impacted bowel, in the center of which was an opening about the size of a silver quarter, through which soft fecal matter passed after taking medicine which had become necessary each day. This accumulation had been present for more than a year. Such cases are frequently encountered.

Constipation and want of proper attention to the bowels requires more extended treatment. The patient must have a particular time for evacuation of the bowels each day. The best time is after breakfast; the hour selected should not be varied from in the least.

TREATMENT.

Here two methods may be employed. A saline laxative may be used as a substitute for the bile acids, which will excite the secretions of the mucous membrane throughout the alimentary canal and also stimulate normal peristalsis. Von Noorden claims he can cure constipation by dietetic measures in from three to six weeks. Boas finds the method successful in the most obstinate cases. The laxative elements of the food in an anti-constipation diet consist of water, salt, sugar, acids, fat, and the indigestible residue of the food, chiefly cellulose. He recommends from half a teaspoonful to one teaspoonful of salt in a glass of cold water before breakfast. Dr. J. H. Salisbury,* who has had good success with this treatment, claims that

*Habitual Constipation. The *Alkaloidal Clinic*, August, 1905.

lemon juice, another laxative element, increases the palatability. Diet is very important in this connection. In some patients, the muscles of the stomach are weakened, in others there is a lack of hydrochloric acid. Examination of the stomach contents is often necessary to determine its condition. If the patient be taking little nourishment, there is most likely a deficient secretion of hydrochloric acid. Examination of the stomach contents is often necessary to determine its condition. If the patient be taking little nourishment, there is most likely a deficient secretion of hydrochloric acid. This would favor constipation. Strychnine is here indicated as a bitter and a tonic which increases the appetite and strengthens the muscles of the stomach. One great source of constipation is lack of water in the system. The feces become dry because the water in the intestinal canal is absorbed. This may be demonstrated by measuring the quantity of urine passed every twenty-four hours. The normal quantity should be three pints or forty ounces. That much water should be drunk each day including tea, coffee, and milk.

Bacteria being present there is always a certain amount of putrefaction, food decomposition occurring all the time. A regular soft movement every day is desirable. This, however, does not always prevent putrefaction, especially where foods containing germs are carried into the intestines or special foods which are acted upon by the bacteria are already in the bowels. Distinction should be made between normal fermentative decomposition of albumen brought about by the action of gastro-intestinal secretion and putrefactive decomposition of the same albumen due to putrefactive micro-organisms which gain access into the bowels and exercise pathogenic action. Absorption of these products into the blood sets up the symptoms already enumerated. The necessity of counteracting this putrefactive decomposition of albumen in the small intestines brings the practitioner face to face with hepatic insufficiency.

HEPATIC INSUFFICIENCY.

By hepatic insufficiency is meant when the liver shows inability to perform its function. The causes of hepatic insufficiency have been conveniently classified by Abbott* under three heads, viz: (1) Mechanical, (2) infectious (parasites), (3) toxic. From my personal experience, I am inclined to add (4) arrested development

**Alkaloidal Clinic*, December, 1904, page 1231.

of the organ. When any one or all of these causes exists, it is not to be wondered that autointoxication takes place. The intestinal tract at all times contains bacteria, many of which are toxic. Decomposing albuminoid substances which often become putrefied and poisonous pass, via the portal system, through the liver which is constantly exposed to their toxic influences. The function of the liver is to restrict or prevent putrefaction, which is accomplished in three different ways: (1) By sending bile into the upper portion of the small intestines capable of destroying putrefactive bacteria the entire length of the small intestines, but more particularly the upper portion. (2) It destroys the albuminoid products already decomposed, thus preventing them from entering the circulation only in an innocuous form. In this manner they are eliminated chiefly through the kidneys without pain. (3) The liver is an excretory organ in that it sends back into the bowel non-toxic material which was originally toxic when passed into the liver. The liver therefore is a secretory as well as an excretory organ. This paper deals with the liver as a secretory organ alone and with what takes place when the secretion is arrested or changed in character.

The bile acts in four different ways: First, it stimulates peristalsis of the small intestines; second, it regulates the degree of fermentation; third, it assists in emulsification and saponification of fat globules in the intestines, and fourth, it destroys putrefactive bacteria.

The poisons generated in the intestinal tract are gathered into the portal system and carried to the liver cells by the capillaries. For a time these cells can dispose of the toxins by destroying them. If the stream continues to flow faster than the capacity of the liver can exercise its disintoxicating function, it becomes impaired. The blood poisons then enter the circulation.

Deficiency of bile, whether due to tired out liver cells or arrested liver development, will cause retention of waste products, constipation, and putrefaction with resultant autointoxication. Waste products of general metabolism must also be considered with those poisons from the intestines which bring about toxic effects.

When the liver cells, exhausted, can no longer perform their functions normally, the poisons brought to the liver through a network of lymph and blood vessels from the general circulation can no longer be converted into innocuous end products, urea, uric acid,

creatin, etc., but are carried into the general circulation unchanged. These toxins, together with those from the intestines, produce self poisoning if not quickly eliminated through the kidneys.

EFFECTS OF TOXINES IN THE SYSTEM.

Putrefactive changes in the intestines are indicated by flatulency of the stomach and bowels; acid stools with considerable odor and distended stomach and bowels. These in turn indicate hepatic insufficiency or liver inactivity, causing all of the symptoms enumerated.

Indicanuria is a positive proof. Indican is derived from indol, a product of albumen putrefaction in the small intestines. Indican is a colorless, syrupy, bitterish derivative also obtained from indigo plants. Other poisons in the urine, sweat, and saliva demonstrate further toxic substances from the intestines circulating in the blood. The toxic products circulating in the blood affect the heart and cause a high blood pressure. High blood pressure together with toxic products circulating in the blood set up inflammation in the alveolar process and gingival border; the alveolar process first, because in the gum tissue under high blood pressure, the tissues being soft, arteries can and do expand and the tissue recovers as soon as the cause is removed; and because the arteries running tortuously through the bone can not expand, blood pressure and toxic products cause inflammation and absorption of bone tissue without restoration. Hence the term "interstitial gingivitis" (deep-seated inflammation in the alveolar process). Cardiac-vascular, nervous, hepatic, and renal diseases as related to interstitial gingivitis are therefore due to the same cause. In relieving or removing the cause of interstitial gingivitis, the other symptoms and diseases are relieved and *vice versa*.

TREATMENT VARIES WITH INDIVIDUAL SYMPTOMS.

In interstitial gingivitis due to autointoxication the best results can be obtained by cleansing the body of decomposing and foreign substances and placing the eliminating organs in a healthy condition. The mouth should be cleaned up, the bowels down, the internal organs inside, the skin outside, and kept clean.

In prescribing for autointoxication note the symptoms and then apply the indicated remedy. There are marked differences in susceptibility to drug action. No two are alike. The child does not require the dose of an adult. No two have the same symptoms. The heart, temperature, and to all appearance the bowels are normal,

yet groups of symptoms show that waste and repair are not in harmony. Dosage therefore varies considerably. A lean, active man who eats little and is abstemious requires different dosage from a fat man of full habits leading a sedentary life with unhygienic habits. To prevent overdosing or "dose enough" as Dr. Abbott calls it, the stomatologist should fix his mind upon the results which he wishes to obtain and give a minimum dose at intervals until these are obtained.

Autointoxication is due to putrefactive changes in the intestines arising from a want of sufficient bile to cause peristalsis and destroy the bacteria. Urinalysis demonstrates exactly what is taking place and what is required in the way of treatment. In connection with a retention of toxins such symptoms are observed as loss of appetite; headache, loss of memory, vertigo, insomnia, tinnitus aurium, general nervousness, biliousness, irritability, weakness, cold extremities, melancholia, impotence, malodorous breath, leg cramps, twitching of muscles, muddy complexion, and many other symptoms.

Treatment must be discussed in the manner already mentioned. First as to the senile stage or tired out eliminating organs. The first indication is to remove the cause and cleanse the bowels. This may be accomplished by flushing the bowels with soap and water once or twice per week, restoring the tonicity of the bowel muscles by massage. A saline laxative upon rising in the morning, once or twice per week, is likewise beneficial. In minor ailments such as above mentioned nothing is better. Cleansing the alimentary canal of all fermented and putrefactive material keeps the mucous membrane clean and the blood pure, which is always the great source of health.

DRUG REMEDIES.

Since putrefactive changes in the intestines and non-destruction of waste products are largely due to hepatic insufficiency, the liver now requires attention. A remedy that will stimulate the liver and cause a flow of bile may be selected from a half dozen or more preparations. A few will be named in the order of their excellence. The dentist should try all these drugs and methods upon himself to note the results. Calomel may be given by itself or in combination with podophyllin, soda, ipecac, etc. Given alone it should be prescribed in 1-12 to 1-6 grain every hour until one grain is taken. This is to be followed with a saline laxative. Podophyllin (mayapple, man-

drake) has good results, but is slow in acting though a direct and positive hepatic stimulant. It acts upon the glandular system of the alimentary canal. In small repeated doses it produces ptialism. As an hepatic stimulant, it requires four to eight hours for action which may last from one to two days. This drug should be taken in small doses, to prevent griping. One-twelfth to one-sixth grain hourly, until one-half grain is taken. A little sodium chloride will aid its action and will not leave constipation in its wake. Podophyllin should never be given in large doses. Calomel and podophyllin may be combined with excellent results. Dr. Abbott* recommends the following:

Calomel	1-6 grain.
Podophyllin	1-67 grain.
Rhein	1-6 grain.
Capsicum	1-134 grain.

Together, hourly, from 6 to 10 p. m. A saline laxative is used next morning before breakfast. I have used the following prescription with good results:

Aloin	1-4 grain.
Strychnine Sulphate	1-6 grain.
Extract Belladonna	1-8 grain.
Py. Ipecac	1-16 grain.

Taken at bedtime. In prescribing either of these, a good saline cathartic should be taken the next morning upon rising to flush the intestinal tract and remove the accumulation that has caused the decomposition. Flushing the bowels with a saline laxative at the proper time to cleanse out the intestinal tract is imperatively indicated. If this be not accomplished when digestion and absorption is re-established excretory material will again be taken up by the portal system and the condition desired will not be obtained.

If the stools are still unhealthy and putrefaction is not removed, administer every two to four hours, two to five grains of the compound lime, soda, and zinc-carbonate. This should be given until the stools become normal in color and odor.

To stimulate the liver, some of the bile acids may now be given.

**Alkaloidal Clinic*, July, 1905, page 62.

A mixed alkaline salt of the bile acids in doses of 1-12 to $\frac{1}{4}$ grain, four or five times a day, is indicated. I have used a preparation called Bilein with good results. Bilein acts in two ways, it mitigates the morbid condition due to a lack of bile secretion and stimulates the organ to resume its function.

INDICATION FROM URINALYSIS.

The urine must now be considered. The patient (adult) must void three pints or forty ounces each day to be healthy. If the quantity be less, elimination treatment is required. The normal specific gravity is from 1015 to 1025. The specific gravity is readily obtained by the ordinary "urinometer." As a rule the specific gravity is high when little urine is voided and low when the flow is abundant. The specific gravity is an index to the quantity of urinary solids. The method of obtaining the quantity of solids has been considered in another paper. The normal quantity for a healthy adult male is 1.200 grains of urinary solids daily. If therefore the quantity of urine voided in twenty-four hours is less than forty ounces and if the specific gravity is high, eight to ten glasses of water, including milk, tea and coffee, should be taken each day.

Urine acidity may be determined by litmus paper. The blue immersed in urine will turn pink, if the urine be acid. If the pink paper be used and it turns blue, the urine is alkaline. The urine should normally be acid. This is but partially satisfactory, since degree of acidity alone is accurate, thirty to forty degrees being normal. When the urine is abnormally acid, a three-grain lithia, sodium bicarb., or sodium chloride tablet in a glass of water four times a day is indicated. This treatment will remove the solids, including the urates, and free the capillary circulation of its obstruction.

If the patient be over forty years of age and absorption of the alveolar process has been severe, it is advisable at first to have a complete urinalysis to anticipate more severe lesions, such as diabetes, Bright's disease, casts, etc. If these conditions exist the patient must return to his family physician for treatment; if they do not exist the simpler methods as mentioned in this paper may be adopted by the dentist. The treatment which I have devised will relieve the distension and pressure of the blood vessels in the alveolar process as well as in other parts of the body. This treatment is based upon the results of years of original research on etiology.

After the preliminary treatment, the patient should be given a complete change. If well to do, send him abroad; if he lives in the interior, send him to the sea shore; if at the sea shore, to the interior or mountains; if in the south, north, and *vice versa*. Usually these people can not stand cold weather, a warm or hot climate is beneficial. Hot springs and baths are always indicated. If they can not afford to travel, let them take Turkish baths and drink hot water. Massage is also indicated. Usually these people are high livers. Restriction and change of food is necessary. Patients should be placed upon coarse, simple food and reduce the amount. This will cause peristalsis and the bile acids can take care of the waste products. It may be necessary to change from a starchy to a nitrogenous diet and *vice versa*. Each patient must be treated according to symptoms.

The patient must return to the stomatologist in some cases as often as two weeks to six months to have the local irritants removed and be advised. If the teeth can be preserved "until death do us part" we shall have received our reward. There are many details in relation to the treatment, but time will not permit further discussion.

I can not close this paper without condemning certain manufacturers, who for financial reasons force upon the dental profession effervescing and other preparations to neutralize uric and other acids, entirely ignoring the cause, uric acid not being a cause but only an expression.

DR. HELMER REPLIES TO DR. BRADY.

ST. CLOUD, MINN.

DR. BRADY.

Dear Doctor: Please allow me to make answer to your article in the May AMERICAN DENTAL JOURNAL, "The Question of Extraction in Orthodontia." You promote the belief that it is poor practice to extract a tooth, that the proper thing is to retain every tooth.

I am a victim of a practitioner who did not know his business. This was about twelve or fifteen years ago. This man extracted two bicuspids on the left side of the upper arch and one on the right side, consequently the arch has shifted to the left. If the doctor was living now I would be tempted to wring his neck. Why? Because he attempted to do something he did not know how to do. At the time of extraction the upper teeth were irregular; the lower teeth were irregular. This doctor attempted to regulate my upper teeth and not the lower. The first molar occlusion was perfect and is perfect now, and that shows that should he have known what he was about he would not have extracted a single tooth.

In the case of mine it was improper extraction. But I believe in the *judicial* extraction. And I am governed by occlusion and age—occlusion of the first permanent molar.

But here is a case for you to decide, whether to extract or not. The case is of a lower lateral incisor which has erupted in an improper position. It has come in disto-lingually to the cuspid tooth. What would you do with that?

Then you make remark relative to mounting models on an anatomical articulator. Have you ever seen an articulator which is anatomical? Anatomical in movement and *dimension*? I have only seen one, and that is one which I made for my own use. In all so-called anatomical articulators the distance from the part corresponding to the condyle of the jaw and angle representing the ramus of the jaw is too short. So that the line of occlusion is too close to a parallel line passing through the condyle. So one can not get perfect movement with an articulator unless it is made per anatomical dimensions.

Very Respectfully,

JOHN LOUIS HELMER.

MEETINGS

NATIONAL SOCIETY MEETINGS.

National Association of Dental Examiners, Minneapolis, Minn., July 26, 27, 28.

National Dental Association, Minneapolis, Minn., July 30.

Institute of Dental Pedagogics, New Orleans, December 30 to January 2, 1908.

INDIANA STATE DENTAL ASSOCIATION.

Officers were elected by the Indiana State Dental Association as follows: R. A. Adams, Clinton, president; D. A. House, Indianapolis, vice-president; C. D. Lucas, Indianapolis, secretary; C. W. Throop, Muncie, treasurer.

NATIONAL ASSOCIATION OF DENTAL SALESMEN.

The Second Annual Convention of the National Association of the Dental Salesmen will take place at the Hotel Shenly, Pittsburg, Pa., July 8, 9, 10, 11, 1907. All reputable dental salesmen are cordially invited to be present.

JUDSON STACKHOUSE, *Secretary.*

C. A. C. KELLY, *President.*

INDIANA STATE DENTAL MEETING IN 1908.

The Indiana State Dental Association has begun active work in preparing for a semi-centennial jubilee meeting to be held in Indianapolis June 4-5-6, 1908, celebrating the fiftieth anniversary of the State Association.

Yours truly,

D. A. HOUSE.

ARKANSAS STATE DENTAL ASSOCIATION.

The Arkansas Dental Association has elected the following officers: President, P. A. Skeen, Texarkana; first vice-president, R. B. Salder, Paris; second vice-president, J. E. Andrews, Harrison; secretary, L. K. Charles, Eureka Springs; treasurer, R. W. Rowland, Bentonville. Little Rock was selected as the next meeting place.

TEXAS STATE DENTAL ASSOCIATION.

Dallas was selected as the next meeting place of the State Dental Association. Officers for the ensuing term were elected as follows: President, Dr. A. A. Dyer of Galveston; first vice-president, Dr. W. G. Collier of San Antonio; second vice-president, Dr. C. Julian Smith of Austin; secretary-treasurer, Dr. James G. Fife of Dallas.

KANSAS STATE DENTAL ASSOCIATION.

The Kansas State Dentists' Association at its last meeting elected the following officers: President, Dr. W. A. McCarter, Topeka; vice-president, Dr. L. D. Hodge, Arkansas City, and Dr. E. W. Baumgartner, Lawrence; secretary, Dr. H. W. Fessender, Ottawa; treasurer, Dr. J. S. Walker, Chetopa. Topeka was chosen for next year's meeting.

UTAH STATE DENTAL ASSOCIATION.

Dr. S. W. Wherry of Ogden succeeds Dr. F. W. Meakin as president of the association. Dr. J. H. Grant of Kaysville succeeds Dr. J. A. Snedaker as first vice-president, and Dr. W. S. B. Terrell succeeds Dr. Grant as second vice-president. Dr. F. G. Osgood is the new secretary and treasurer, succeeding Dr. J. R. Anderson. Dr. A. C. Wherry of Salt Lake was elected to the board of censors. The executive committee of the association is to be appointed later.

OKLAHOMA AND INDIAN TERRITORY DENTAL ASSOCIATION.

Following the amalgamation of the Oklahoma and Indian Territory Dental Associations, under the name of the Oklahoma Dental Association, members of the organization met and elected Dr. V. L. White of Oklahoma City president; Dr. Day, Vinita, first vice-president; Dr. R. O. Hirchi, Guthrie, second vice-president; Dr. F. A. Stickel, Muskogee, secretary. The next meeting place will be Muskogee, I. T.

MISSISSIPPI STATE DENTAL ASSOCIATION.

The Mississippi Dental Association will hold its next meeting in Jackson. These officers were elected: President, Dr. L. A. Smith, Port Gibson; first vice-president, Dr. J. F. Brunson, Meridian; second vice president, Dr. Charles F. Boger, Natchez; secretary, Dr. E. Douglass Hood, Tupelo, without opposition and with hearty unanimity; corresponding secretary, Dr. L. B. Price, Corinth; treasurer, Dr. C. C. Crowder, Kosciusko, elected in the same manner as Secretary Hood.

MISSOURI STATE DENTAL ASSOCIATION.

Dr. J. W. Hull of Kansas City was elected president of the Missouri State Dental Association. Dr. J. B. McBride of Springfield first vice-president; Dr. H. H. Sullivan of Kansas City, secretary; Dr. E. P. Dameson of St. Louis, corresponding secretary, and Dr. J. T. Fry of Moberly, treasurer.

St. Louis was selected as the next meeting place of the convention.

ILLINOIS STATE DENTAL SOCIETY.

The Illinois State Dental Society held its forty-third annual meeting at Quincy, May 14 to 17, 1907.

The following officers were elected for the ensuing year:

President, W. A. Johnston, Peoria, Illinois; Vice President, Henry L. Whipple, Quincy, Illinois; Secretary, Arthur D. Black, Chicago, Illinois; Treasurer, C. P. Pruyn, Chicago, Illinois; Librarian, J. T. Cummins, Metropolis, Illinois.

The 1908 meeting will be held at Springfield, May 12, 13, 14 and 15.

INTERSTATE DENTAL FRATERNITY.

The Board of Governors of the Interstate Dental Fraternity will convene for the annual business meeting of the order in Minneapolis, Minn., Monday, July 29, at the West Hotel. The annual banquet will occur during the week, and due notice thereof will be sent to the members as soon as arrangements can be made and the exact date fixed. It is hoped that the fraternity will meet in large numbers on this occasion.

DR. R. M. SANGER,
East Orange, N. J. National Secretary.

MICHIGAN STATE DENTAL ASSOCIATION.

The Michigan State Dental Association has elected the following officers:

President, E. B. Spalding, Detroit; vice-president, L. N. Hogarth, Detroit; secretary, George H. Copp, Plainwell; treasurer, J. W. Ardhouse, Grand Rapids; trustees, W. R. Purmort, Saginaw; C. H. Warboys, Albion; George Zederbaum, Charlotte; J. W. Lyons, Jackson; J. H. Armstrong, Belding; G. C. Bowles, Detroit.

For the next annual meeting, to be held in June next year, the dentists are planning to combine the convention with a vacation trip. The meeting will probably be held on a boat en route from Detroit to the Soo and return, making a four days' trip.

JAMESTOWN DENTAL CONVENTION

TRANSPORTATION RATES TO THE JAMESTOWN DENTAL CONVENTION.

The following rates to the Exposition have been made by the transportation lines: Season tickets, 80 per cent. of double one way. Sixty day ticket, one and one-third fare plus 25 cents. Ten day ticket, one and one-third fare plus \$2.25. These rates will probably be lessened, or, if not, there are likely to be special excursions from all parts of the country and Canada at low rates: The following places of interest can be visited as side trips: Jamestown Island, \$1.00; Yorktown, \$1.00; Williamsburg, \$1.95; Washington, \$3.50; Baltimore, \$5.00; New York, Old Dominion Steamship Company, \$13.00 round trip; Philadelphia, rail, \$9.00 round trip; Richmond, \$3.50 round trip. Several watering places within a few minutes ride of Norfolk and Exposition grounds. For further information, address Committee on Transportation, Jamestown Dental Convention.

J. LEWIS WALKER, Norfolk, Va.

A. ALLISON STORES, Norfolk, Va.

W. M. STURGIS, Norfolk, Va.

By H. Wood Campbell, Secretary Committee on Organization.
Suffolk, Va.

The Jamestown Dental Convention, Norfolk, Va., September 10-12.
1907.

COMMITTEE ON ORGANIZATION.

Burton Lee Thorpe, Chairman, 305 North Grand Avenue, St. Louis, Mo.; H. Wood Campbell, Secretary, Suffolk, Va.; F. W. Stiff, Treasurer, Richmond, Va.; R. H. Walker, Norfolk, Va.; Thomas P. Hinman, Atlanta, Ga.; J. E. Chase, Ocala, Fla.; Clarence J. Grieves, Baltimore, Md.

OFFICERS.

Honorary President, J. Y. Craeford, Nashville, Tenn.

President, V. L. Turner, Raleigh, N. C.

First Vice-President, B. Holly Smith, Baltimore, Md.

Secretary General, George F. Keesee, Richmond, Va.

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Chairman of the General Membership Committee, F. W. Stiff, Richmond, Va.

The essayists of the meeting are as follows: Professor W. D. Miller of Berlin, Germany; subject, "Demonstrations of preparation relating to the wasting (so-called erosion) of the teeth. Dr. Charles L. Alexander, Charlotte, N. C.; subject, "Gold inlays." Dr. F. T. Van Woert, Brooklyn, N. Y.; subject, "Is the cemented filling the filling of the future?" Dr. R. Ottolengui, New York; subject, "The purposes and accomplishments of modern orthodontia."

The clinics and exhibits at the Jamestown Convention are to be its interesting features.

MANUFACTURES EXHIBIT.

The Committee on Manufactures Exhibit, Dr. John W. Manning, Norfolk, Va., will show the latest and best dental instruments, appliances, machinery, furniture and materials.

ORTHODONTIA EXHIBIT.

Dr. Harry E. Kelsey, Chairman, Baltimore, Md.

The Committee on Orthodontia Exhibit expect to have displayed at the Jamestown Dental Convention the best and most complete collection obtainable in the country, of models and appliances illustrating the treatment of the various classes of orthodontia cases. The committee also hopes to have exhibited rare and valuable collections illustrative of the progress of the science of orthodontia from its beginning down to the present day, thus adding an historical feature to the display. The rare and valuable collection of models of the American Society of Orthodontia has already been secured and several of the most prominent orthodontists of the country have promises to contribute. In addition to this, Dr. R. Ottolengui will read a paper before the general body on, "The Angle Method in Orthodontia," which will be a paper reviewing and comparing the best in all methods to date.

SURGICAL CLINIC.

Dr. L. M. Cowardin, Chairman, Richmond, Va.; Dr. J. Y. Crawford, Nashville, Tenn.; Dr. A. G. Fredericks, New Orleans, La.

Under this head a number of important surgical operations of the mouth, face and jaw will be performed. Among the well-known operators who have signified their intention to operate are: Drs, C. V. I. Brown, Milwaukee, Wis.; W. A. Bryan, Nashville, Tenn.; William Perrin Nicholson, Atlanta, Ga.; B. Holly Smith, Baltimore, Md.; V. P. Blair, St. Louis, Mo.; Frederick B. Moorehead, Chicago, Ill.; Randolph Winslow, Baltimore, Md.

COMMITTEE ON COMPARATIVE ODONTOLOGY.

Dr. William Bebb, Chairman, Los Angeles, Cal.; Dr. A. H. Thompson, Secretary, Topeka, Kas.

In this exhibit there will be about two thousand specimens illustrating Comparative Odontology, together with a number of pathological specimens, showing the effects of rickets, actinomycosis, etc., upon the teeth and the bones of the face. The latter are probably the most interesting feature of the collection.

There will be specimens dissected to show the attachment and development, others displaying the skin, skull and teeth of the various animals, together with a number of extracted teeth of mammals. The invertebrates, fishes, reptiles and birds will be represented by their food reducing organs. A number of human skulls will be displayed, together with a collection of pathological human teeth. The collecting, preparation and mounting of the specimens of Dr. William Bebb, all of which has been done by the exhibitor, is a feature of the exhibit which will be of interest to many. The pathological specimens, which may possibly have some bearing upon human dental pathology, are the most interesting part of the collection to the average dental student, and in this respect the Bebb collection is unique in having a larger number of these than any other known of. The ones Dr. Bebb collected himself are certainly more authentic than any which might be obtained from a commercial collector. This collection was exhibited at the Portland Dental Congress and received the hearty praise of all those who saw it.

THE U. S. NAVAL DENTAL EXHIBIT,

Dr. Richard Crady, Chairman, Annapolis, Md.

The U. S. Naval Dental Exhibit will include many hundreds of charts of the teeth of young men from 16 to 24 years of age from all parts of the country, showing at a glance and far more impressively than printed words could ever do, teeth filled, crowned,

treated, extracted, unerupted, irregular, etc.; also the size of cavity on individual surface of teeth; also kind of filling, or crown or bridge.

The character of the work, if gold is designated with gold paint, if amalgam with aluminum paint. Much valuable information is to be found in memoranda of anything of special importance, malformation and malposition of teeth and jaws, mechanical injuries to teeth and jaws, polypus of pulp, pyorrhea, erosions, stains, reflex pains, regulating appliances, painful and difficult eruption of third molars, etc. The records, showing where caries is localized, extend over a period of years, and it is hoped that some day this store of recorded dental knowledge will be tabulated and the results of observation and study brought before the profession as scientific questions for consideration and interpretation. While the charts are simple, official records of the peculiarities of the teeth and of the operations performed upon them, yet they have furnished reliable evidence in several cases of drowning, as the teeth maintained their features and peculiarities when other external signs were wanting in establishing personal identity. A summary of the relative frequency of dental caries after 16 years of age (and before in permanent teeth) with number of teeth present, fillings, crowns and bridges will also be exhibited.

COMMITTEE ON DENTAL HISTORY.

Dr. William H. Trueman, Chairman, Philadelphia, Pa.; Dr. Charles McManus, Secretary, Hartford, Conn.

This exhibit will show a collection of photographs, early certificates and diplomas, portraits of distinguished practitioners, collections of ancient dental instruments, and specimens of dental prosthetic skill, porcelain work, etc. A photograph of title pages of early American dental literature, books and journals, etc. The committee on history will also prepare a report on the contribution of pioneer Southern dentists, dental colleges and societies of the Southern states. This will be published in the proceedings. For further information, address,

H. W. CAMPBELL, Secretary,
Suffolk, Va.

MISCELLANEOUS

NEURALGIA.

For facial neuralgia, a small quantity of oil of sweet birch rubbed over the nerve gives great relief.—*Era*.

CLEANING FILES.

When a vulcanite file becomes clogged with rubber and plaster, wrap absorbent cotton around it and saturate the cotton with chloroform. In about ten minutes it can be cleaned perfectly, using a stiff brush wheel on the lathe.—*V. P. Perisho, Dental Review*.

TO REMOVE AN IMPRESSION.

If it is found difficult to remove an impression for full superior denture, have the patient close the lips and blow with sufficient force to distend the cheeks, and the impression will drop down, no matter how tight it may have been.—*R. C. Traynham, Practical Dental Journal*.

ETCHING PORCELAIN INLAYS.

Hydrofluoric acid makes a smooth etch; white acid makes a frosted etch, to which the cement will tightly adhere. It is prepared by making a saturated solution of ammonium carbonate in hydrofluoric acid, using a lead dish; evaporate to one-half its bulk; add hydrofluoric acid up to its original bulk, and evaporate again to one-half. Keep it in a gutta percha bottle.—*Joseph Head, Dental Cosmos*.

A GLASS SOLDER.

M. Margot states that an alloy composed of tin 95 parts and zinc 5 parts, which melts at 360 degrees F., adheres to glass tenaciously, and possesses an unalterable metallic luster. An alloy of tin 90 parts and aluminum 10 parts, melting at 572 degrees F., also adheres strongly to glass surfaces. By means of either of these formulæ two glass surfaces can be united as if they were of metallic composition.—*Ch. Margot, Le Laboratoire*.

CEMENT FILLINGS.

When conditions indicate the advisability of having a small portion of infected (though not softened dentin) the cavity must be sterilized with a cauterizing, non-staining disinfectant, such as colorless tricresol and formalin, equal parts; all traces of this solution to be removed from the cavity by applications of hot air, or repeated washings with distilled water, before the cement is inserted.—*R. H. Welsh, Items of Interest.*

GAS AND TIME REGULATOR.

Every vulcanizer ought to be equipped with a regulator; not only because this prevents too rapid heating, too high heating, and too long heating, but rather because it removes the necessity for watching the vulcanizer, and—most important—the danger of explosion from neglect in watching.—*Stewart J. Spense, American Journal of Dental Science.*

AMALGAM FILLINGS.

For amalgam fillings in first and second molars, gold is indicated to bring the alloy to the required hardness and edge strength. If copper is substituted instead of gold the result is rapid discoloration, whereas gold whitens the alloy and hardens it to any desired extent, and most important of all, gives such a knife-edge water-tightness as seems to meet with no equal.—*W. Charles Davis, The Dental Record.*

INVESTMENT PLASTER.

Investment Plaster of the most reliable and inexpensive kind can be made by any dentist from the following formula:

Good Quality of Ordinary Dental Plaster.....	2 Parts
Pulverized Mica (Mica Flour)	1 Part
Marble Dust (Pulverized)	1 Part

Proportions determined by measure.

This compound, if carefully and thoroughly mixed to insure uniformity of the mass, will be found specially adapted to every department of the dental laboratory where an investment plaster is required. The mica flour, (pulverized mica), can be obtained from the United States Mica Mining & Milling Co., of Micanite, Colorado, main office in Chicago, Ill.

H. A. CROSS, D. D. S.

Chicago, Ill

LOWER IMPRESSIONS.

The fitting of the tray for the lower impression is of more importance than that for an upper. The lower impressions tray should be so bent that the tray shall be shallow at its posterior part on its buccal flanges, and deep enough on its lingual flanges to carry down between the tongue and the ridge. And it should be long enough to go back and cover the tuberosities. There should be about a quarter of an inch space between the lingual flanges of the tray and the lingual sides of the ridge, and should be so bent that the patient would be able, when the tray is in position, to thrust the tongue forward on top of the tray.—*J. A. Bullard, Review.*

VALUABLE FORMULAS.

The following are some of the formulas that have been used with considerable satisfaction by good authorities, applied in cavity on cotton: Chloroform, oil of cloves, tincture aconite, equal parts of each.

Absolute alcohol	1 part.
Extract opium	1 part.
Extract camphor	1 part.
Extract Peruvian bark.....	1 part.
Mastic	2 parts
Chloroform	20 parts.

A saturated solution of cocaine in glycerine.

Wipe out cavity with alcohol afterward to eliminate glycerine.

Campho-Phenique—Dissolve 20 grains cocain in 1 ounce ether; add 1 ounce pure oil peppermint. Shake well before using.

Where these applications can be confined in the cavity on cotton, and softened gutta percha used as a plug behind, pressure will be found to facilitate their action. If it is the desire of the operator to apply pressure anaesthesia to the extent of anaesthetizing the pulp it is a very well established fact that the use of adrenalin chloride with the cocain, by its restrictive action in the blood vessels, prevents the latter from being taken up readily by the blood, and therefore reduces materially the chances of toxic effect in the system, and the effect of the cocaine locally lasts longer.

Try a few crystals of cocaine in a mixture of adrenalin and chloretone for pressure anesthesia.

(To Be Continued.)

PERSONAL AND GENERAL

Dr. A. J. Morris, a dentist at Indianapolis, Ind., died June 13. He was fifty-six years of age.

Dr. Howard M. Combs, a dentist at Visalia, Cal., died June 14. He was fifty-six years of age.

Dr. J. D. Loetzerich, a dentist at Pine Bluff, Ark., died June 2. He was forty-five years of age.

Dr. E. E. Rust, a dentist at Monroe, Wis., died May 28 as a result of hemorrhage of the brain.

Dr. William I. Hervey, a dentist at Lowell, Mass., died May 18. He was thirty-seven years of age.

Tompkins-Lorena.—Dr. J. H. Tompkins of Chicago and Miss Mabel Lorena were married June 13th.

Dr. William H. Unangst, a dentist at Easton, Pa., died June 8th. He was thirty-eight years of age.

Davis-Love.—Dr. Walter Ross Davis and Miss Jennie Love, both of Whiteville, N. C., were married June 19.

Smith-Lawson.—Dr. O. L. Smith and Miss Edna Lawson, both of Fort Collins, Colo., were married June 21.

Barnhill-Edwards.—Dr. Denzil Barnhill and Miss Maude Edwards, both of Corning, Ark., were married recently.

Brown-Faraba.—Dr. A. W. Brown and Miss Edna Florence Faraba, both of Centerburg, Ohio, were married June 8.

Fire.—Dr. D. S. Tillou suffered a loss of \$150 by fire which destroyed the postoffice building at Belleville, N. J.

Egbert-Cannon.—Dr. J. W. Egbert of Chicago, and Miss Matilda Cannon of Crown Point, Ind., were married May 26th.

Dies of Hemorrhage.—W. W. Bentley of Loma Vista, Cal., died from hemorrhage, following the extraction of two teeth.

Town Without a Dentist.—Dr. H. H. Weickel has left the town of Pittsville, Wis., which leaves an opening for a dentist.

Seyfert-Mullin.—Dr. Robert E. Seyfert and Miss Rosa C. Mullin, of Chester, Pa., were married June 13 in Philadelphia, Pa.

Longwell-Bowers.—Dr. Harry G. Longwell and Miss Louis May Bowers, of West Philadelphia, N. Y., were married June 11.

Dentist Wanted.—Owing to the decease of Dr. J. C. Orwig, Herndon, Pa., is without a dentist. It is said to be a good location.

Dissolved.—The firm of Rix & Spence of Dowagiac, Mich., has dissolved partnership, each will continue practice in a separate office.

Committed Suicide.—Dr. H. L. Tripp, an inmate of the city infirmary of Cleveland, Ohio, committed suicide by shooting himself June 11th.

Smith-Roberts.—Dr. H. L. Smith, of Warren, Ind., and Miss Leah Alice Roberts, of Indianapolis, Ind., were married at the latter place June 1.

Dr. J. W. Beaman, a dentist at Columbus, Ohio, died June 18. He was seventy-nine years of age and was a graduate of the Ohio Dental College.

Army Dentist.—Dr. R. M. Hollingsworth, a California dentist, will leave this month for the Philippines to accept a position as army dental surgeon.

Dr. R. C. Brewster, a dentist at Middletown, N. Y., died May 18. He was sixty-three years of age and was a graduate of the Long Island Medical College.

Dr. W. C. Cunningham, a dentist at Cadiz, Ky., died June 13th. He was fifty-three years of age and had practiced dentistry for about fifteen years.

Wainwright-Peak.—Dr. W. A. Wainwright of Winchester, Ill., and Miss Bronna Lee Peak of Jacksonville, Ill., were married June 19th at the latter place.

Appointed by State Board.—Dr. C. F. Ambrose has been appointed a member of the State Board of Dental Examiners of Kansas to succeed M. L. Hulst of Hutchinson, Kas.

Dr. Clark Cole, a dentist of Herkimer, N. Y., died June 21 in Palmyra, N. Y., of tuberculosis. He was twenty-four years of age and was a graduate of the Buffalo Dental College.

Held for Death of Woman.—A dentist in Red Lodge, Mont., is being held for causing the death of a woman in that city, her death being caused by an alleged criminal operation.

New Dental College.—The Oklahoma Dental College at Oklahoma City is a recent incorporation. The directors are: Drs. W. L. Maupin, R. M. Maupin, G. B. Ross and T. J. Pendleton.

Dentist Held for Murder.—C. C. Armstrong, a traveling dentist, is being held by the coroner's jury at Newberry, S. C., for causing the death of a patient by the use of an anesthetic.

Heiress of Husband's Teeth.—A woman in Ft. Atkinson, Wis., has had a set of teeth worn by her husband for eighteen years made over for herself. It was made by a dentist in Janesville, Wis.

New College Building.—The North Pacific Dental College has purchased a half block in Portland, Ore., and will erect a four-story college structure to cost \$40,000, to be completed by September 1, 1908.

Dies of Infection.—Charles Crouse, a seven-year-old boy at Pittsburg, Pa., died May 30th from blood poisoning following the extraction of teeth by a woman operator in a dental establishment in that city.

Robberies.—Drs. D. S. Anderson, Maroa, Ill., loss \$12; Harry H. Buechler, Newark, N. J., loss \$60; Chastain, of Chanute, Kas., loss \$25; G. R. Warner, Grand Junction, Colo., loss \$150; G. E. Whittemore, Little Rock, Ark., loss \$200; D. A. Johnson, Colorado Springs, Colo., loss unknown; Sinton & Flora, Colorado Springs, Colo., loss \$50; D. A. Johnston, Colorado Springs, Colo., loss between \$40 and \$50; C. A. Downs, Colorado Springs, Colo., loss \$50; E. V. Shadomy, Pueblo, Colo., loss \$20.

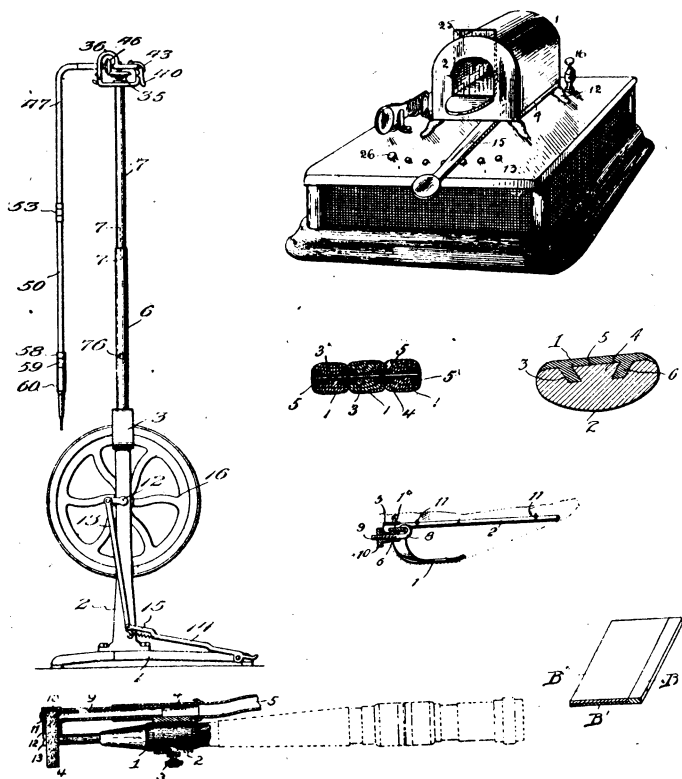
No Pay, No Teeth.—After a certain dentist was filled with despair over his failure to collect his bill for supplying a Myrtle street woman with a set of food choppers, he decided to make use of his aggressive assistant. After admitting that it was like pulling molars to get the money, he had to struggle to keep from laughing, as he instructed the young fellow to "go up and get either the cash or the false teeth." Well, the junior dentist drilled up to the house, managed to interest the unsuspecting housewife in a general conversation and then, to crown the stunt with success, he introduced the subject of dentistry. Of course, the woman referred to her false teeth, insisted that they didn't fit properly, and that she did not intend to fill the dentist's purse with gold for "such awful work." The caller suggested that he might remedy the defects, and the "owner" of the teeth and the temper handed them over. Once they were in his possession, the dentist collector filed out of the house and jumped on his bicycle, with the toothless woman in hot pursuit, and calling, "Police! Police! He has my teeth!" He still has them.—Detroit News.

Removals.—Drs. Erle Cowger, from Monticello, Ind., to Converse, Ind.; A. F. Quick, from Chicago, Ill., to Rockford, Ill.; Cyrus Myers, from South Bend, Ind., to Michigan City, Ind.; M. R. Melvin, from Frazee, Minn., to Detroit, Minn.; Stockbarger, from Milford, Ind., to North Webster, Ind.; James Duncan, from Crawfordsville, Ind., to Warsaw, Ind.; J. L. Dudley, from Cuba, N. Y., to Erie, Pa.; E. Laughlin, from Indianapolis, Ind., to New Market, Ind.; C. J. Lyons, from Adrian, Mich., to Jackson, Mich.; D. B. Bebout, from Amsterdam, Ohio, to New Philadelphia, Ohio; J. L. Trinkaus, from Pekin, Ill., to Peoria, Ill.; Jesse Miller, from Greenview, Ill., to Charleston, Ill.; B. B. Giffin, from Glidden, Wis., to Superior, Wis.; W. S. Potter, Jr., from Battle Creek, Mich., to Vicksburg, Mich.; C. F. Miller, from Ann Arbor, Mich., to Benton Harbor, Mich.; E. Nelson, from Two Harbors, Minn., to Valmora, N. M.; E. R. Waterman, from Oakland, Cal., to Sacramento, Cal.; E. J. Hollern, from Minneapolis, Minn., to St. Cloud, Minn.; Arthur Schindler, from Chicago, Ill., to Monroe, Wis.; F. G. Stover, from Rockford, Ill., to Jonesboro, Ark.; R. M. Spaulding, from Mason, Mich., to Billings, Mont.; J. H. Linsley, from Hopkins, Mich., to Mason, Mich.; S. W. Miller, from Erie, Ill., to Abingdon, Ill.

DENTAL PATENTS

Fig. 1.

850,661. Dental Engine.—Jesse A. Lewis, Elgin, Neb. Filed December 30, 1905. Serial No. 293,958. Claim.—1. In a dental engine, the combination of a standard, a yoke-shaped bracket member carried by the



top of the standard, a movable bracket member hinged to the stationary member and arching over the top thereof, a detachable connection between the bracket members, a drive-shaft carried by the standard and projecting into the space between the bracket members, means for driving said shaft, a gear carried by the drive-shaft and located between the bracket members, a counter-shaft carried by the movable bracket member, and a gear carried by the counter-shaft and in mesh with the first-mentioned gear.

Fig. 2.

849,335. Electric Dental Furnace.—Louis Markwitz, San Francisco, Cal. Filed January 22, 1906. Serial No. 297,367. Claim.—1. In an electric furnace, the combination comprising a muffle provided with corrugations or grooves on its exterior surface arranged to receive a winding of wire; a jacket of earthy non-heat-conducting material, encompassing said muffle, and made in two separable parts, and an outer metal casing, also made of two separable parts, and provided with means for fastening the same together; the front wall of said outer casing being made with an opening leading into the muffle, and provided with a suitable sliding door to close said opening.

Fig. 3.

849,702. Guard and Moistener for Dental Tools.—Charles A. Sevier, Jackson, Tenn. Filed July 12, 1906. Serial No. 325,918. Claim.—1 The combination with a nozzle or handhold of a dental engine, of a collar or band to be inserted on the nozzle, a thumb-screw securing the collar to the nozzle, a tube secured to the collar, a second tube having telescopic connection with the first-mentioned tube, and a grindstone-shield on the last-mentioned tube.

Fig. 4.

852,266. Artificial Teeth.—Ernest De Witt R. Garden, Tarrytown, N. Y. Filed June 11, 1906. Serial No. 321,224. Claim.—An artificial tooth comprising a facing having a longitudinally-convex inner face provided with spaced, inwardly-extending undercut grooves diverging toward the cutting edge thereof, and a metal backing having spaced ribs diverging to conform to the grooves in the face and adapted to fit therein, whereby the strain on the edge of the facing is thrown upon the metal backing and its connections.

Fig. 5.

848,863. Reinforce and Backing for Artificial Teeth.—Isidore Stern, New York, N. Y. Filed July 16, 1906. Serial No. 326,335. Claim.—1. A metallic tooth backing and reinforce, including two layers of different metals of different widths, both of said layers being intimately united, one layer being of solid gold and providing a solid-gold border at one edge.

Fig. 6.

851,578. Artificial Teeth.—Walter O. West, New Orleans, La. Filed May 8, 1906. Serial No. 315,783. Claim.—1. A plurality of teeth, each having at its inner side a vertical angular channel, the channel of one tooth registering with that of the adjacent tooth, and a body of solder filling the cavity produced by the registering channels.

Fig. 7.

835,358. Rubber-Dam Adjuster.—Thomas F. Kennedy, Janesville, Wis. Filed April 3, 1906. Serial No. 309,653. Claim.—1. A device of the character described comprising an open frame provided with means for attaching it to a rubber-dam clamp, and also provided with means for holding a rubber dam in stretched condition around the clamp.

FOR SALE.

One Ritter engine, nearly new, with slip joint and S. S. White hand piece, \$85; also two Emerson motors, each \$20. Address "G. D. T.," AMERICAN DENTAL JOURNAL.

WANTED

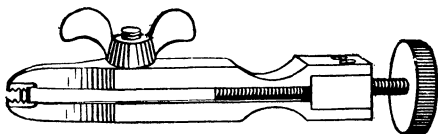
Position as operator in dental office by graduate Dental College, Northwestern University. Dakota or Montana preferred. Address M. W., care AMERICAN DENTAL JOURNAL.

WANTED.

A competent operator, graduate of Northwestern University Dental Department, would like to form connection with good dental firm on partnership or salary basis. Address W. M., care AMERICAN DENTAL JOURNAL.

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Actual
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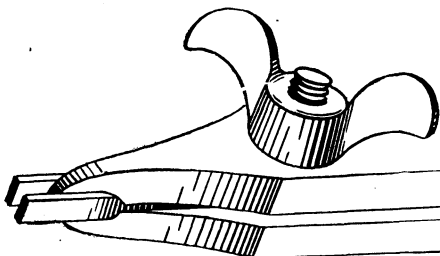


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A Crown Pin Removing Vise — A Great Time and Temper Saver

With this instrument you can remove the pin from any root in a few seconds without pain to the patient or injury to the root. The Crown Pin Removing Vise is a patented instrument designed, and made to remove the pin, post, or anchor, which is left cemented in natural root, after the porcelain crown or fillings have been fractured or otherwise removed, and the ease and rapidity with which it will do the work will pay for the instrument the first time it is used.

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An Open Letter to Dentists

From Herman C. G. Luyties, President of The Sanitol Chemical Laboratory Company.

DEAR DOCTOR:—Have you carefully considered the meritorious proposal that the co-operative, profit-sharing Sanitol Chemical Laboratory Company are making you for subscribing to its voted increase in stock, and participating in the profits of the business?

The plan of co-operation on which the Company is organized is well known to you, and you also realize the merit and unique value of the Sanitol preparations themselves.

For ten years the Company has been known as thoroughly reliable and conservative in its business. The Sanitol trade, which has been firmly established, is profitable and today presents the most remarkable possibilities for future growth.

Did you ever stop to consider that if the Sanitol preparations were used by every family in the United States, it would mean millions of dollars each year in profits to be shared by the stockholders? Our object is to conduct a vast educational campaign for tooth health that will ultimately place Sanitol in every home.

Sanitol has been introduced into forty-two foreign countries. This is the last time that the dentists of the United States will be allowed to accept the privileges of Sanitol co-operation by joining the Sanitol Company.

Bear in mind, Doctor, that St. Louis stockholders have said: "It is our opinion that the investment made by dentists will steadily grow in value, hence urge co-operation to the end that the development of the business may be successfully carried out."

The new stock is being rapidly subscribed. There is a limited amount reserved for dentists. We wish to have this stock distributed among Sanitol's friends, those who believe in and will recommend the superior Sanitol tooth preparations, and who will support the Company's interests.

We believe that dentists and druggists who push Sanitol have a right to share in the profits of the Company. Four hundred sixty-five thousand dollars has already been distributed among stockholders. Why not invest in an assured success?

Write me today, and receive information as to the liberal terms by which you can obtain some of this stock.

Yours very truly,

HERMAN C. G. LUYTIES.

President
The Sanitol Chemical Laboratory Company,
St. Louis.

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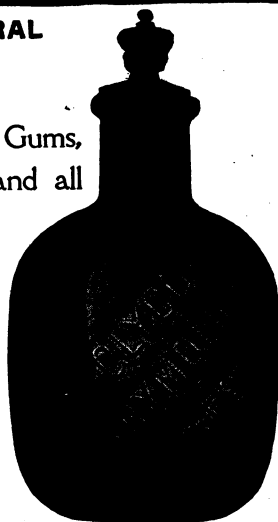
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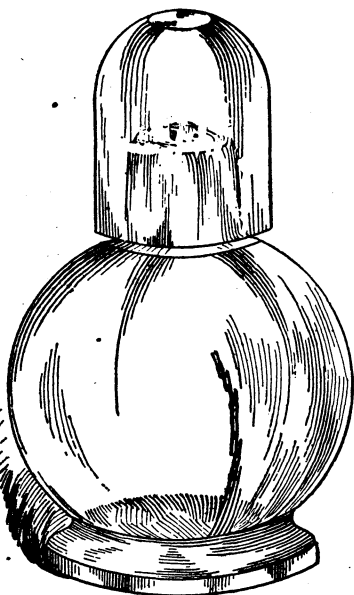
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